

A
T R E A T I S E
ON THE
ERRORS AND DEFECTS
OF
MÉDICAL EDUCATION:
IN WHICH ARE CONTAINED
OBSERVATIONS
ON THE
MEANS OF CORRECTING THEM.

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Obstat quicquid non adjuvat. QUINTILIAN.

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M.DCC.XCIV.

TO

PETER JOHNSON, Esquire.

DEAR SIR,

YOUR Character in the literary world is too well known to receive any additional lustre from my pen. In private and in public life, the excellency of your conduct has been equally conspicuous ; as is clearly evinced by the high esteem of all who know you. Not to mention the happiness
of

of your friendship, your distinguished learning, as a Gentleman and a Scholar, adorned with every social virtue and sound principle of religion and morality, has enabled you to discharge the various duties of life with honor and dignity to yourself, and comfort and happiness to all around you. Forgive, dear Sir, the liberty I have taken in thus freely addressing you in the language of truth, dictated by a heart full of respect and gratitude. Your permission to dedicate to you the following Pages, is an additional mark of your kindness and friendship for one, who must ever
think

(v)

think it an honor to subscribe
himself,

Dear Sir,

Your obliged Friend,

and obedient

humble Servant,

THOMAS WITHERS.

YORK, 15th March, 1794.

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To the READER.

THE following Treatise on the ERRORS and DEFECTS of MEDICAL EDUCATION was written prior to that on the Use and Abuse of Medicine, and has been in the Author's possession near twenty years. On re-examination it appears to contain observations not unworthy to be made public; for if *errors in education* are corrected, it is to be hoped that *errors in practice* will be *less frequent*, and consequently the abuse of medicine less to be complained of.

THE

INTRODUCTION.

IT is intended, as introductory to the following pages on MEDICAL EDUCATION, to make a few remarks on the NEGLECT of that METHOD of STUDY, which is best adapted for obviating the defects, correcting the errors, and forwarding the improvements of medicine. For it generally happens, that if arts and sciences be at first cultivated on a narrow contracted plan, the mind is so prone to fall under the influence of indolence or prejudice, as to feel itself afterwards either unwilling or unable to cultivate them in a liberal and extensive manner.

The conduct therefore of those physicians
ought not to be passed over in silence, who
b have

have illiberally attempted to explode all reasoning in the art of medicine. The gentlemen who have chosen to rank themselves, or who are deservedly ranked by others, under the class of Empirics, too numerous indeed in every age, have in general been in their profession as illiterate and shallow, as in their manners proud and overbearing*. By such assumed carriage, it may be concluded, they would acquire with some a degree of dignity and importance, which on just grounds they were conscious to themselves that they had no right to expect. Empiricism, by the most learned part of the faculty, has ever been held in high contempt, and justly regarded as a great hinderance to the advancement of medical knowledge. Fortunately for the cause of our profession, there is not an university in the present age, where medicine is taught on an empirical plan. The superiority of Dogmatism is no less clear in argument, than evident from experience†. After
instinct,

* Empirics are such persons as have no true knowledge of physical practice, but venture upon observation only.—They practice by rote, without rational grounds.—Empiricism signifies quackery. JOHNSON.

† A dogmatic is one who practises physic on established principles, and is placed in contrast with the empiric, who, being unlearned, has no settled notions in his profession. Dogmatism is opposed to quackery. JOHNSON.

instinct, reason is our safest guide. The practice of an empiric, being founded on no solid rational principles, must ever be vague and fluctuating, if not rash and highly dangerous. He neglects the study of anatomy, and seems in effect to despise all investigations into the structure and uses of the different parts, and to desert all physiological inquiries concerning the laws of the animal economy. So many cases occur in practice, which are easily ascertained by the powers of reason, but which must ever remain obscure, if not unaccountable to empirics, that we cannot but pity those credulous persons, who, through ignorance, suffer from their weak, unskilful, and rash treatment of diseases.

Before an empiric can practise physic with success, he ought certainly to have acquired not only an accurate knowledge of the histories of the different *genera* of diseases; but, what is of more consequence, of the different *species* and *varieties* which have occurred. It must however be confessed, that there are no empirical writings in medicine which, with the least color of truth, can be said to contain such a stock of historical learning. Here therefore the empiric must experience in his imaginary
b 2 system,

system, a most material defect. He must acknowledge that to extricate himself out of this difficulty, the light of reason can alone direct him. But he will have the mortification to feel his mental powers enervated by disuse. He will find that to obtain an accurate account of medical facts, he is under the necessity of studying dogmatical writings. These he cannot but peruse under every disadvantage, when he is not only prejudiced against them, but ignorant of anatomy and of the institutions of medicine.

Besides, the empiric would do well to search more narrowly into what passes within himself. He would then soon be convinced, that he is not what he pretends; and would naturally be led to doubt the existence of a real empiric. To reason is a natural function of the mind of man. The propensity to it is altogether irresistible. For any one to attempt to forbid himself the use of reasoning, is equally as absurd, as if he should resolve, while his organs of vision were perfectly sound and exposed to a fair light, that he would not see, however indistinctly, a single object before him. The truth of the matter is, that every physician must necessarily reason, but with this material difference,

difference, that he who best understands his subject, will reason upon it with the greatest justness. For he, who is able accurately to detect the fallacy of another's reasoning, is most capable of avoiding fallacy in his own; and the being conscious of errors is a powerful motive to keep us on our guard against them.

There are those, who declare themselves professed enemies to theory, and yet who argue in medicine in a manner truly ridiculous; who obstinately reject the reasonings of others, however excellently founded; affect to disbelieve, what in reality they do not comprehend; advance, through ignorance, theories of their own the most extravagant; and draw conclusions from principles of the most dubious nature, with the same confident assurance, as from the best established facts*. To render therefore our reasonings in medicine safe, the theory ought to be studied in its utmost extent.

It is an opinion advanced by the late celebrated Dr. Cullen, whose medical reading was confessedly great, that false facts are more numerous

* See the learned Dr. Percival's Essays, vol. I. page 43.

numerous than false theories. The observation I apprehend is strictly just. Hence an insuperable difficulty occurs to the empiric; for how shall he be capable of distinguishing between truth and falsehood, who has declared himself averse to reasoning. The human body is of a complicated structure, and its disorders, as well as their causes, are numerous and variously combined. Hence the indispensable necessity of inquiring minutely into the laws of the nervous system; and into those too of the animal economy, considered as a chymical mixt, an hydraulic engine, and a mechanical machine; in order that the physician may be able, not only to practise his art with success, but even judiciously to collect the facts which fall under his observation*. To the want of such knowledge, may indisputably be attributed in part that immense multiplicity of inaccuracies and contradictions, which we meet with in the relation of medical facts. Hence causes have often been mistaken for effects, and still oftener effects for causes; the histories of diseases have been drawn up without method; their

* *Lectures on the Institutions of Medicine*, by the late Dr. Cullen, who from his great genius and deep erudition was wont to consider every subject in its most extensive point of view.

their symptoms rarely enumerated in that order, in which they occur in nature; and the practice has been overloaded with a rude indigested heap of ineffectual medicines, and often rendered pernicious by the imprudent use of efficacious ones.

Empiricism indeed is not superior to dogmatism in a single point. For that physician does not merit the name of a dogmatic*, who is not equally as inquisitive after the attainment of useful facts, as any empiric whatever; and who does not rate them at as high a value. In this boasted part of the empiric's plan, the dogmatic is at least upon an equal footing with him, unless it may be considered as a disadvantage to be possessed of greater medical erudition; nicer habit of discernment, and superior force of reasoning.

But the abuse of theory, as well as the neglect of it, has added largely to the abuse of medicine. Theory is the application of general rules, cautiously founded on facts, to regulate and explain particulars†. This is the light,
in

* Vid. page 6.

† Ferguson's Lectures on Moral Philosophy.

in which theory in a philosophical sense ought to be understood; although it must be acknowledged, that that term has often been absurdly used to convey a very different meaning. It is notorious, that one of the greatest abuses of the theory of medicine has arisen from substituting vague hypothetical opinions without the least shadow of support, in the place of theories well established in fact. Unfortunately examples of this nature sometimes occur in many of our most correct medical writings, but they abound in those of an inferior order.

I am no enemy to hypotheses, treated as such; because, under the direction of men of sense, they have frequently tended to forward the progress of science. We often at first suppose a thing to be true, which afterwards we confirm by facts, deduced from a careful observation of nature. Here the supposition proves of real utility. The chief cause of our complaint is, that their inventors, naturally too partial to their own hypotheses, are apt to forget their proper use, and absurdly to consider them as well attested theories.

But no man, to whom the care of health and life is intrusted, should ever dare so
to

to trifle with his charge, as to found his practice on imaginary principles. No prudent physician should ever give the least credit to a theory, which might influence his practice, unless it were well supported by facts; and, as a late eminent professor of medicine expressed it, terminated at last in a fact itself*. It is the neglect of such theories as those, such general fundamental principles, which makes empiricism truly contemptible; and it is the careful cultivation of them, which dignifies the dogmatic, renders his practice more successful to his patients, as well as more satisfactory to himself.

But where the dogmatic has assumed his principles on slight foundation, unsupported by facts and experience, and then attempts to regulate the conduct of his practice by the erroneous guidance of false doctrines, he insults common sense, and most materially injures the public. For false theory, it is well known, has often led to unsuccessful practice. False

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theory

* *Lectures on the Institutions of Medicine*, by the late Dr. Gregory, who was a man of the greatest caution and soundest judgment, as well as deepest erudition.

theory introduced the fatal error of administering heating remedies, in the treatment of inflammatory disorders. False theory induced some of the antients, in opposition to the loudest calls of instinct, to deny their patients, during the first two or three days of inflammatory fevers, the indulgence of a little water to quench a thirst, no less insupportable in itself, than dangerously tending to aggravate the complaint. Van Helmont is said to have died of a pleurisy, because from theory he refused to be bled. Erasistratus, from theoretical views, taught his followers, that bleeding and purging in any disorder whatever was an absurd and pernicious practice; in consequence of which extravagant doctrine he may in all probability have been accessory to the death of numbers of his fellow-creatures. Lieutaud mentions a physician, who, from erroneous principles, attempted to remove a disorder by bleeding his patient a hundred times within a year, by which rash treatment his strength was exhausted and his constitution destroyed. Innumerable examples indeed might be collected to prove the bad effects of ill-founded theories, which ought to be as severely decried, as good ones deservedly supported. But here we may remark, how weak the judgment of those who
would

would reject all theory from the practice of medicine, because, when abused, it has been productive of pernicious consequences. As well might we deny the utility of reason and of speech, bestowed by indulgent heaven on man alone, in heightening the pleasures of society, and assisting in the conduct of human affairs; because we so frequently find that reason is erroneous, and the faculty of speech abused in such a manner, as to be a disgrace to the human understanding. If the sound doctrines of the institutions of medicine lie too much buried amidst the copious rubbish of ignorance and falsehood; a spirited desire of improvement will excite the endeavors of men of genius, to extricate them with all possible industry and success.

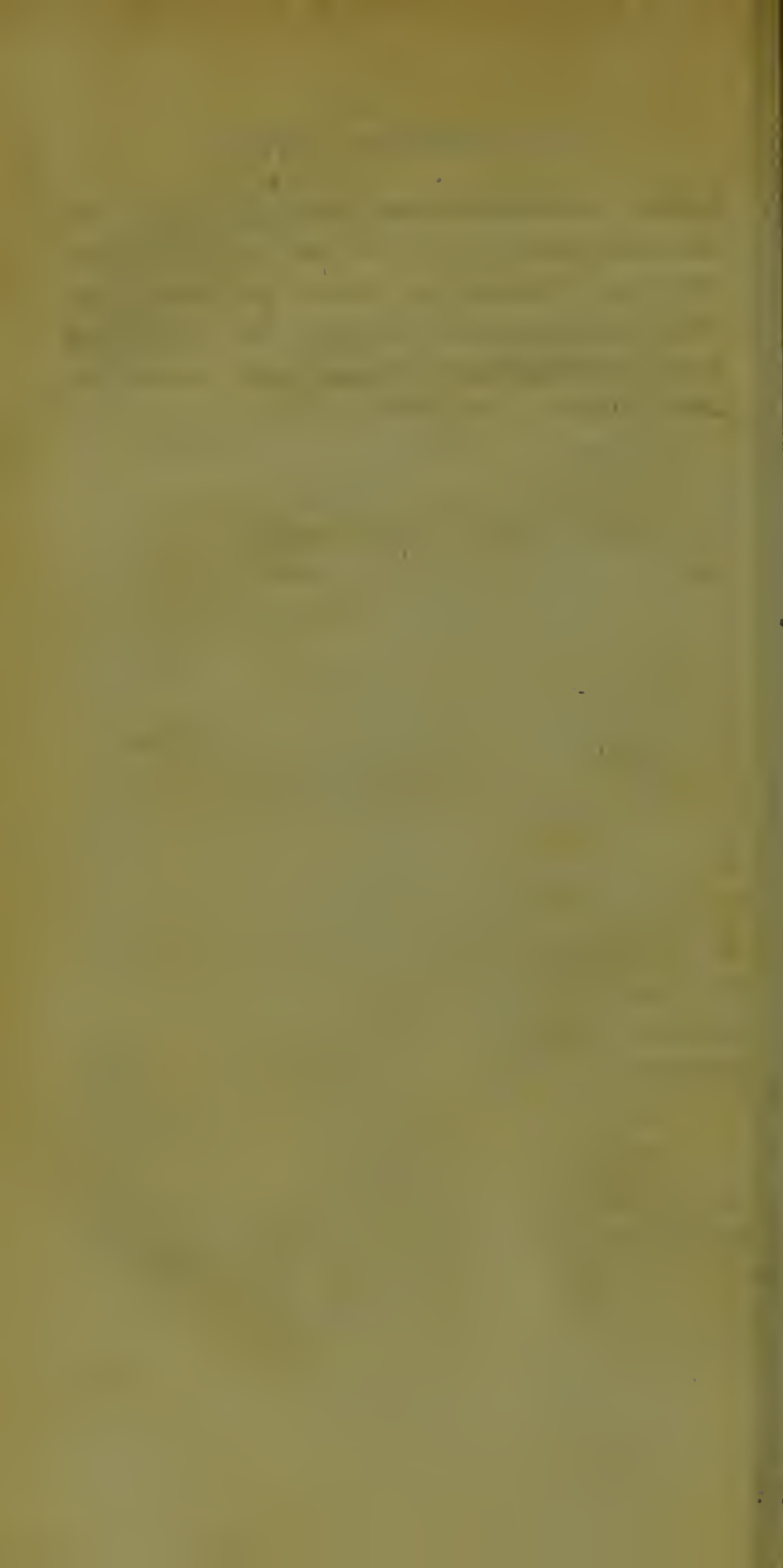
To depreciate the value of theory and keep in countenance a jealous tribe of empirics, it has been advanced by some that, however physicians may differ in their principles, they agree in their practice. But it may be affirmed on the best authorities that this assertion is as false in fact, as it is absurd in contemplation. Any one who is at all conversant in medical writings, either antient or modern, cannot but know that there are many important differences

rences in the practice of physicians. Besides, although in words there should be a near agreement both as to their theory and their method of cure; yet in practice, where diseases present themselves much complicated, imperfectly formed, in various stages, and with various aspects, the treatment of similar complaints will in many instances be found in the hands of different practitioners to have been extremely different. But where physicians have dissimilar theories and contrary opinions concerning the use and operations of remedies; where some practise with principles, and others without; how is it possible to conceive that such men should not considerably vary in their judgment on the respective indications, and consequently on the method of cure. Experience itself concurs with reason in establishing this unquestionable truth; and often indeed the disappointed patient finds among practitioners a most material difference of treatment, his ignorance of which he has the greatest cause to lament.

These observations seem sufficient to enforce the advantages of cultivating the study of medicine, with the exactest caution, as well as with the most liberal and extended views of science;

science; and they serve at the same time to expose the dangerous effects of low quackish arts, which are disgraceful to our profession, and of flimsy hypotheses, mistaken for theoretical truths, established in nature and founded on experience.

OBSERVA-



OBSERVATIONS
ON THE
ERRORS AND ABUSES
OF
MEDICAL EDUCATION.

THE ERRORS and ABUSES of MEDICAL EDUCATION are a very important subject, and deserve a serious consideration. Many of the abuses of medicine, which take place to the great detriment of society, originate from the want of proper instruction. Several medical practitioners engage in their profession, with little or no education; and some indeed without having attended even a single course of anatomical lectures. Age, good connections, industry, regular conduct, a sociable disposition, and a mild
pliant

pliant temper, together with some confused scattered ideas of a few common diseases, collected chiefly from casual observations on the practice of others, constitute the means by which many acquire a considerable reputation in the healing art. Such practitioners can have but little knowledge of the rudiments of their profession; their reasonings must be weak and superficial; and their judgment concerning the seat, nature, causes and cure of diseases, ill founded and not to be depended upon.— But where life and health are the stake, who can risk a greater? And when a man has really lost his health, and finds himself laboring under a complaint, become incurable by ill treatment, what is there then that he would not do to regain it?

Now if in the common routine of business, so much danger and so many difficulties occur to practitioners who have had little or no instruction, what must be the consequence where cases are obscure and of difficult investigation? Will not one disorder be continually mistaken for another? Will not a practice totally opposite to the real nature of the disease be continually adopted; and medicines exhibited, which tend to increase and even fix the complaint,

plaint, rather than to remove it?—But to pass from these melancholy reflections, (which experience but too much justifies) I shall proceed to make *some observations* on the *errors* and *abuses* of *medical education*, which though they can have but little effect on the present, may add somewhat to the improvement of the rising generation.

But before I proceed to mention the particular abuses of medical education, permit me to give a caution or two to parents and guardians concerning the *natural capacity* and *general health* of those, who are intended to practise the healing art; an art of all others the most noble and the most useful to mankind, when cultivated by men of experience, erudition, and judgment.

Where there is a *natural defect* of *understanding*, it is impossible for any one to engage in the profession of medicine with success either to himself or others. With respect to himself, if his livelihood depend upon his business, he will probably want the necessaries of life, or be a constant burden to his friends; and with respect to his patients, common sense will determine what must be the unavoidable conse-

quence to them. This is a defect too which almost every one at first sight can discover, except those only who are as weak as himself, or blindly prejudiced in his favor. There are many professions, honorable in themselves and useful to mankind, in which a person of moderate parts may stand a fair chance to succeed. But in medicine it is otherwise; for here the practitioner is either a blessing or a curse in the place where he lives, and if he does not do good, he must in his practice be continually doing harm to those who are unfortunately committed to his care.

Besides an obvious want of understanding in some, there are others in whom the deficiency is more latent, but not less pernicious in its effects on society. Persons of this description have an appearance of understanding; and, by time and industry, may acquire a tolerable notion of some common medical facts, which they may be able to bring forward in writing or conversation. But then they have no solidity or basis, on which to establish the practice of a physician. Their judgment, when put to the test, is not sound; and the knowledge which they seem to possess, is generally misapplied. In conversation with them, a practitioner of
abilities

abilities and experience is sometimes surpris'd to find the absurd arguments which they advance, and the erroneous opinions which they support with warmth concerning the nature, causes, and cure of disorders. Supposing them to have a tolerable share of understanding, he feels somewhat displeas'd at their obstinacy; but knowing the real defect of their natural abilities, the solution of the difficulty is obvious; and if he be then offended at the weakness of their reasonings, the fault is his own. Medical men of this character, are often forward and assuming; for they generally possess that degree of pride and low cunning, which instinctively leads them to put on a good assurance, as being in some measure a mask for their defects*; but in their profession they are without depth, without judgment, and without

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dis-

- * Of all the causes which conspire to blind
 Man's erring judgment, and misguide the mind,
 What the weak head with strongest bias rules,
 Is pride, the never-failing vice of fools.
 Whatever nature has in worth deny'd,
 She gives, in large recruits, of needful pride;
 For as in bodies, thus in souls, we find
 What wants in blood and spirits, swell'd with wind:
 Pride, where wit fails, steps in to our defence,
 And fills up all the mighty void of sense.

Pope's Essay on Criticism.

discrimination ; and their practice and experience is altogether

Rudis indigestaque moles.

If a person of this description intend to be bold in his treatment of a disease, he disdains the boundaries by which others of sound judgment regulate their practice, and, by unwarrantable rashness, sports dangerously with the lives of his fellow-creatures ; or if he wish to be cautious in his method of treatment, he is so perfectly useless, as on the other hand to allow the disorder to gain strength by delay.

Parents or guardians of good sense, will often of themselves make a full discovery of any defect of understanding. In this case they should be steady in refusing their consent to the predilection of youth, or the injudicious advice of their ignorant companions. But if near relations or friends may sometimes be thought prejudiced or partial, let them consult with others, on whose judgment they can rely with confidence ; and who will not be afraid to give them an honest opinion, without flattery on the one hand or severity on the other. Sometimes even when we have not a friend to do it, an enemy unsolicited will make the unwelcome discovery ; and this is one advantage

rage among others, which men of sense may derive from their enemies. Sometimes too those persons who have superintended their education in their early years, may be able to give useful hints on this subject. But by whatever means the natural want of understanding be discovered, let it be the fixt and invariable guide of conduct to parents and guardians, to prevent young men of that predicament from engaging in the study of the science of medicine, which even to men of genius is a difficult and arduous undertaking.

The next hint I would give to parents and guardians is concerning the *natural constitution* and *general health* of those committed to their care; for if that point be not duly attended to, all labor and expence in their education may probably be lost. The practice of medicine is a laborious employment, and requires a constitution, which, though not robust, is yet able to undergo hardships and fatigue.—Nothing is more unfavorable to a young man, engaged in this profession, than to have *knots or tubercles in the lungs* along with a narrow chest and delicate constitution, in which case the lungs become tender, and liable to be affected by cold and various changes of weather. Fre-
quent

quent coughs, shortness of breath, difficult lying, a weak voice, and flying pains in the breast, together with difficulty of breathing and expectoration of viscid and sometimes bloody mucus, will discover this state of the lungs.—*Glandular obstructions* also in the *mesentery**, are extremely unfavorable to a medical student. Tender relaxed bowels, a weak irregular appetite, pale fallow countenance, tumid body, emaciated habit, frequent diarrheas, and transient colic pains, will afford a strong indication of mesenteric obstructions, which are of very serious consequence, and ought therefore never to be neglected at their first appearance.—If along with symptoms of tubercles of the lungs, or obstructions of the mesentery, there be any *external glandular swellings* in the neck or other parts of the body, the case will still be clearer.

These

* “ Mesentery is a membrane beginning loosely upon the loins, and is thence produced to all the guts: It preserves the jejunum and ileum from twisting in their peristaltic or vermicular motion, and confines the rest to their places. It sustains all the vessels going to and from the guts, viz. arteries, veins, lymphæducts, lacteals and nerves, and also contains many glands, called, from their situation, *mesenteric*.”
 Cheselden's Anatomy, page 160.

These and such like complaints are so obstinate and difficult to be relieved, and, when relieved, are so apt to return, that it is almost impossible for any one, who is much afflicted with them, to engage successfully in the practice of the healing art. The profession of medicine, especially in the country, subjects its followers to all the vicissitudes of heat and cold. There is no choice of seasons or of weather left to themselves. Day and night they are expected to be in readiness; and any disorder which they may have, unless it be violent indeed, will hardly be admitted by their patients as a sufficient excuse for want of attendance. If they be seized with any return of their complaint, they have little or no opportunity to take proper care of themselves, especially at its commencement, which is generally the principal and most critical part of medical practice, and that on which the success of the whole depends. They are frequently obliged to change their house and bed in the most inclement seasons, and to take journeys of considerable length, in which very unfavorable circumstances occur from severe weather, bad roads, inconvenient ferries, and various unforeseen accidents.

For these and other reasons, it is evident that the practice of physic must be a dangerous employment to a person of a weak and delicate habit, and more especially if he be a youth of spirit, who cannot easily bear to see his equals, and much less his inferiors, put before him in the honors and emoluments of his profession. Young men of this delicate frame of body are often possessed of the most enlightened, noble, and generous minds, which circumstance renders their sufferings peculiarly distressing to their friends. They frequently will indeed forget themselves, make light of their own complaints, and push forward boldly in the career of fame, until they either accomplish their point or nobly fall in the cause. It is a melancholy reflection to see young men of this excellent character engaged in an undertaking to which they are not equal, and in the pursuit of which they must in all probability fall early victims. Or suppose even they should live to establish their reputation, and secure to themselves an extensive practice, above either the impudence of the ignorant or the calumny of the envious, what a mortification must it be not only to their friends, but even to the public, to see young men of that character and genius, languishing and dying of

a complaint at the prime of life, of which they could neither foresee the danger, nor be convinced of the existence, till it were too late to remove it.

It is at the same time proper to observe, that if a student of physic be a man of fortune, he will, though of a weak and delicate frame of body, have many advantages over another of a similar constitution, but in confined circumstances. In the first place he will most probably follow the profession of a physician, and not that of a surgeon or apothecary, which two last professions (and particularly that of surgery) are certainly much more hazardous to a weak constitution than the first. In the next place, he can have every convenience of servants, horses, carriages. &c. to guard him against all inclement weather and sudden changes from heat to cold. He may likewise take up his residence in a large city, and, without inconvenience to himself, wait patiently for some years, until he comes into full practice. He may, if he please, fix in the metropolis, where the profession of physic is exercised within a more limited circle, and in a regular uniform manner; and consequently is not near so dangerous to a weak habit, as in the country.

Besides a tender and debilitated constitution, there are other bodily defects which might be mentioned, as being objectionable to the practice of physic, such as *deafness, considerable impediments of speech, any great and visible deformity of body, &c.* but it is needless to enlarge on particulars, which are so obvious at first sight. At the same time I must observe, that such is the force of industry, abilities, and a good education, that there are some who, notwithstanding great defects of this kind, do the highest honor to the healing art, and far surpass in fame and successful practice many others, who have every personal advantage and bodily endowment, but are deficient in the knowledge of the history and cure of diseases.

Having made these previous necessary observations on the natural capacity and general health of those, who are best qualified to enter on the study of physic, we proceed to the consideration of the *errors and abuses of education*, which take place in those who design to practise the healing art. With a view to comprehend more fully the principal branches of this important subject, it may not be improper to consider the *want of necessary preliminary, and ornamental learning*;—the *want of medical learning*;

ing;—and some other *defects* and *abuses* of *education*, arising from *various causes*. These last, though too short in general to form distinct heads, cannot be properly introduced under the first or second head; and yet they are of too great moment to be passed over in silence.

ON THE WANT OF NECESSARY PRELIMINARY,
AND ORNAMENTAL LEARNING.

THE character of a physician ought to be that of a gentleman, which cannot be maintained with dignity, but by a man of literature. He is much in the world, and mixes in society with men of every description. He ought therefore to be well acquainted with men and manners. If a gentleman, engaged in the practice of physic, be destitute of that degree of preliminary and ornamental learning, which is requisite to qualify him to act with dignity and propriety in his profession, he will be in danger of exposing himself, as well as his profession, to ridicule, if not to contempt. Such a one, for instance, if he do but speak on any subject either of history or philosophy, is immediately out of his depth, his thoughts are confused, his language incorrect, and his conclusions

weak and erroneous. Or if he attempt to set down his thoughts on paper, he will probably be so defective in grammar and expression, that a school-boy would be ashamed of his writing. With a view therefore to prevent this defect in medical characters, which is a real discredit to the profession, I shall point out what preliminary and ornamental learning is necessary for a physician; without on the one hand leaving his character defective, or on the other requiring too great mental exertion, which would not only impair his health, but ingross too large a portion of his time.

I pass by the early period of life, in which *writing, reading, common arithmetic, &c.* are usually acquired.—With respect to the first there are physicians who affect to write a *bad hand*; but it is an unpardonable fault not to write a *legible hand*; since from the want of it, the most dangerous effects may ensue to the health and lives of our fellow-creatures. I have known, in consequence of this defect, a poison administered instead of a safe and innocent medicine.—*Short-hand writing* also is very useful to medical students in taking notes at the different lectures, which they may attend. The best and most perfect should be learned at first, as it is
 very

very difficult to lay aside the use of a shorthand which is once attained, and to substitute another in its place.

The *learned languages* soon engage the attention of youth, and these indeed will amply repay his labors—I mean *Latin* and *Greek*.

A thorough knowledge of the *Latin language* is absolutely necessary for a medical student. Not to mention the great loss he must sustain in being deprived of the pleasure of reading the Latin classics, he will, without this language, be unable to study medicine to advantage. Many of our best medical authors have written in the Latin tongue, which being a language universally understood, affords a medium of conveyance for the improvements of our art into every distant region of the world. In foreign universities, the professors of medicine usually deliver their public lectures in Latin; which indeed was formerly the custom at Edinburgh and other seminaries in this island, famous for medical instruction. Another advantage is, that with the Latin tongue a man may travel over the learned world, and acquire knowledge in every quarter of the globe; but without this necessary language, he will
often

often in foreign countries sit an idle spectator, while others, of his own age and standing, are making daily and rapid improvements. Nay without Latin, he will be unable either to write or read a common medical prescription.

With regard to the *Greek Tongue*, it is rich, harmonious, and highly expressive; which renders it extremely difficult to be translated into other languages. There are many excellent Greek writings in poetry, history, and other branches of literature, which cannot but give great pleasure, and afford much solid instruction to young minds. But notwithstanding my partiality for the Greek tongue, I cannot, with truth, say so much for its importance in the study of medicine. Hippocrates I revere, and Galen I admire, as fathers of the healing art; and it must be confessed to be highly gratifying to the mind, to trace the useful discoveries in the history and cure of disorders, which were made by those immortal geniusses*.

But the knowledge of the present age in anatomy, chymistry, and consequently in the
theory

* All the useful knowledge which is contained in the writings of the antients, is carefully delivered in those of the moderns, with many important additions and improvements.

theory and practice of physic, is found so infinitely to surpass that of the antients, as to render far the greatest part of their writings a confused heap of unintelligible jargon. And how should it indeed be otherwise, when they did not even know the circulation of the blood, nor the passage of the chyle from the bowels through the lacteal vessels and thoracic duct into the left subclavian vein; nor had any clear ideas of the limphatic absorbent vessels, of glandular secretion, or of the nature and functions of the brain and nervous system. For these reasons, one cannot with any color of argument recommend an accurate knowledge of the Greek language, as absolutely necessary to the study of medicine. We have no modern books written in Greek, and even the attempt to do it would be pedantic and ridiculous. It is true indeed that many of the technical terms in medicine are derived from the Greek, but then often with such new ideas annexed to them, as nearly to obliterate their original meaning; for many things which they spoke of in a confused manner, we are able to speak of with precision, and Greek words, as well as Latin, are often used by modern writers in a sense unknown to the antients.

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But though I by no means consider a critical knowledge of Greek, as essential to a student of physic; yet a moderate knowledge of it is certainly both useful and ornamental, and where it can be conveniently attained, it ought not to be neglected. It would not however be adviseable to spend too much time in the pursuit of it; for with respect to its utility in the study of medicine, it will not repay the time and trouble necessary to acquire it. Yet such a moderate knowledge of it, as may enable a man to understand the derivation of Greek words, so commonly used in all the different branches of our profession, is pleasing to the mind, and affords great assistance to the memory. A knowledge like this will be sufficient also for any one to indulge his curiosity in reading, in the original language, some of the principal Greek writings of the antients in the different branches of his profession.

Besides the attainment of Latin and Greek, which are distinguished by the appellation of the learned languages, I must recommend it to the medical student to acquire a competent knowledge of the *French language*. The French have always been esteemed a learned, and till
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of late a polished people; and many excellent medical productions have originated from them. After having attained the Greek and Latin tongue, the reading of French will be easily acquired, which will open an ample field of improvement, and enable a person to peruse many excellent medical works written in that language. If he be able also to write and speak French with tolerable ease and correctness, it will be a still greater advantage; for this may be of singular service in travelling through foreign countries, where the French language is generally understood. It will indeed require some time and pains to read, write, and speak French; but the probable utility of it in his future studies, will amply repay him in a professional view, not to mention the very great satisfaction which must arise to an inquisitive mind, from perusing in the French language many beautiful classical and other learned productions.

I must likewise earnestly caution the medical student not to neglect his *native tongue*, which is an error too common in this country*. A gentleman ought to be well instructed in the

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English

* Vid. Sheridan's *Profoadial Grammar*.

English language, so as to be able to write and speak it with ease, purity, and even elegance. The English grammar should be critically studied. The best and most correct authors should be carefully read, and frequent essays made by the student to imitate their stile and manner of writing. Such exercises, as these, will afford much improvement to youth in acquiring an accurate knowledge of the English language.—Permit me also to add, that a distinct, easy, and harmonious pronunciation is a great ornament in common life, as well as in public speaking, and is well worth the attention of the physician, especially if his education and medical attainments justify him, as a professional man, in the expectation of practising physic among the higher ranks of society. A correct and distinct pronunciation can only be attained by constant attention, and by speaking at all times every word with clearness and deliberation. A hasty inarticulate method of speaking, though very common amongst us, and, when once acquired, difficult to be corrected, is both vulgar and disagreeable.

A moderate knowledge of *Mathematics* is necessary in the character of a gentleman, and consequently of a physician. A deep and perfect

fect knowledge would require too much time, and is therefore out of the question ; neither would it be of any essential service in the study of medicine. Formerly mathematical knowledge was thought of the utmost consequence in the education of a physician ; and many labored calculations were made to ascertain the force of the muscles, and particularly of the heart in the circulation of the blood. But those calculations were very erroneous and dissatisfactory. There were not sufficient data for the mathematician to proceed upon ; and accordingly as he fixed these, his calculations differed essentially from those of his predecessors. Some, for example, proved by mathematical demonstration that the force of the heart was superior to 1500 pound weight ; and others on the contrary that it was not equal to that of a single pound. When men launch beyond the sphere of human knowledge, it is no wonder that their literary productions should not answer the expectations of the public. Mechanical calculations on the dead subject may be reduced in some measure to mathematical certainty : but when the living powers are included in the calculation, the case is quite altered ; and the mathematician degrades his character by wandering like a pedant in the regions of darkness

and uncertainty, unable to produce conviction on the minds of the learned, and apparently content therefore with the approbation of the ignorant.

History, Logic, Rhetoric and the Belles Lettres, Natural History, and Natural and Moral Philosophy, make up in part also the education of a physician. But a general only, and not an accurate and critical knowledge is here required,

With regard to *History*, a competent knowledge of that of our own country, is chiefly to be aimed at, and especially as it stands connected at present with the different states of Europe. The physician in this branch of learning, as well as in many others, must submit to the politician, the gentleman, and the scholar, who have leisure at command, and whose business it is to look with a more critical eye into the laws* and history of nature and of nations.

Logic

* The first volume of Blackstone's Commentaries contains a great deal of very useful knowledge on this subject, and may be read by a medical student with much advantage.—A knowledge of the law respecting *wills* is necessary for a physician, in consequence of which he sometimes may, by prudent and timely advice, prevent in families much misery and confusion.

Logic teaches us the art of arranging our thoughts to the best advantage, in order that we may be able to deliver them either in writing or conversation with full force. This is an art therefore equally as necessary to a physician, as to any other man of learning. For want of this knowledge one frequently observes a good cause weakly defended, and strong arguments brought forward in a very imperfect manner, so as to produce no adequate effect. The arrangement of a subject is often confused and disorderly, beginning where it should end, and ending where it should begin. The best Logic originates from nature. A pedantic display of syllogistical reasoning either in writing or conversation, is at once both absurd and disgusting. But to have a subject handled in a pointed and masterly manner, and every part of it clearly and ably supported, is no less pleasant to the reader, than satisfactory to the writer.

A competent knowledge of *Rhetoric* and the *Belles Lettres* will amply repay the medical student for his trouble in acquiring it. Such knowledge will open to him many beautiful scenes of nature and of art, which might otherwise have escaped his observation. It will make him acquainted with the principles and origin
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of true taste. It will instruct him in the foundations of universal grammar, and lead him into all the beauties, elegance, and correctness of style in every species of composition*.

A competent knowledge of *Natural History* is also requisite. Natural History is the study of nature, and consequently it presents to our view a most extensive prospect. Several of the most important parts of it are necessarily included in the education of a physician, and become principal objects of his attention, such as chymistry, anatomy, botany, &c. In consequence of a knowledge in these leading branches of his profession, the study of other parts of natural history, and particularly of that of the animal creation, becomes easy, entertaining, and instructive. No branch of learning shews more forcibly the unavoidable necessity of the admission of final causes, and consequently the wisdom of the deity in the creation of the universe. There never did, nor ever can exist in the same individual, a natural historian and an atheist.—But the physician must here also set bounds to his curiosity, and not spend too much

* Vid. Dr. Blair's Lectures on Rhetoric and the Belles Lettres.

much time in the more minute and trivial parts of the subject, lest the natural historian and the physician should degenerate into the virtuoso, and the color of a butterfly or the veins of a pebble, however beautifully variegated, become serious objects of his attention.

A general knowledge too of *Natural Philosophy* is indispensably necessary; but a very accurate and critical knowledge of it is more than a sufficient employment for the life of any one man. To understand the general principles of natural philosophy is highly ornamental to the physician; for without a knowledge of these (which is by no means difficult to be attained) no man can pass through life in the character of a gentleman. But then the physician must be content here with general principles, and not devote too much of his time to the deep and intricate parts of this important science; for if he be too closely engaged in abstruse philosophical researches, he will (as was before observed) either injure his health, or neglect his profession.

Moral Philosophy teaches many useful lessons, which it is incumbent on every man to know. It is one of the noblest studies that can engage
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the mind of man. It enters into the discussion of many important subjects, which, as they often occur in common life, become frequent topics of conversation. It explains the nature, origin, and necessity of society; it teaches the foundation of human laws; it unfolds the different politics, by which different nations are governed; and above all it brings us acquainted with the being and attributes of the Deity, and the unalterable obligations of religion and morality*.

So much for the enumeration of the particular branches of preliminary and ornamental learning, which is necessary in the education of a physician. But notwithstanding its utility, how many young gentlemen do we daily see crowding at universities in their medical pursuits, who are very deficient in this respect. Such ignorance leads to disagreeable consequences. Not habituated to the attainments of science, the mind, engaged in medical studies, will feel itself unable to comprehend the doctrines of physic with that ease and perspicuity, with which it might have done, had it been previously inured to literary pursuits. Such a
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* Ferguson's Lectures on Moral Philosophy.

student at an university will but imperfectly understand the public lectures, or what is worse, be liable to mistake them. Thus he will furnish his mind with erroneous doctrines. The authors, which he attempts to study, he cannot study to the best advantage. Many indeed of the first repute, he cannot, from his ignorance of different languages, peruse at all. In this situation, finding himself far surpassed in medical knowledge by his more learned companions, though of the same standing in point of time and of no superior industry, he begins perhaps to reflect unjustly on his own abilities, to sink in his own estimation, and to meet his more successful friends uneasy and depressed. A state like this is very unhappy, where natural genius is damped, improvements in knowledge slowly made, and generous minds liable to become envious and contracted.

From a defect of preliminary and ornamental learning, an evident disadvantage will be experienced by the young practitioner, however skilful he may be in his profession—and particularly at his first appearance in life. As few gentlemen are judges of medical attainments, recourse therefore is often had to the more general topics of polite literature, in order to

convince the world of sense and abilities. If any one, although he be deficient in medical knowledge, can but artfully succeed in this point, (I speak it not without regret) mankind will generously give him almost unlimited credit for the rest. And if the gentlemen of the faculty should discover his ignorance in his profession and publish it abroad, their report probably will not avail much, because they are generally looked upon as an interested party. Such artifice, allow me to add, never succeeded better than in the present times, especially when conjoined to the powerful influence of rich friends, to the alluring sway of good breeding, and a knowledge of the world; for thus ornamented, polite literature shines with its fullest lustre.

And indeed the young practitioner, however skilful he may be in his profession, will find it requisite to lay hold of every fair opportunity to promote his success in life. For he will too often experience the cool exertions of a friend, the industrious activity of an enemy, a ready public belief of many false ill-natured reports to his prejudice, and a thoughtless irrational delight in some men to cheapen, or wantonly sport with the reputation of one, to whom in a short time they themselves, or some of their friends,

friends, may perhaps owe the preservation of their lives.—A good practical physician will as certainly contribute to the welfare, as a bad one will add to the miseries of society. Admitting that an unlearned practitioner may, by repeated observations on the methods of treatment adopted by men of abilities, acquire a tolerable knowledge of a few common diseases, yet he must necessarily be very ignorant of many others, not less dangerous in themselves, though of less frequent occurrence, in which any material mistake may prove fatal to his patients. For no one who is possessed only of a partial knowledge of the history and cure of diseases, can (not to mention success) be supposed capable even of practising physic with safety.

I know that there are men of that aspiring genius and steady application to business, who, notwithstanding great ignorance in other liberal sciences, understand the profession of medicine in a masterly manner; who, by successful practice and an anxious care for the sick, acquire a high character and justly deserved fame; and, surmounting every presenting obstacle, oblige others by mere professional merit to solicit their attendance. Such practitioners are often

a public blessing,—bold, observing, and judicious. By dedicating their labors to the study of medicine alone, they really improve their profession both in justness of principle, and in soundness of practice.—Their success in life, however, points out only the irresistible force of parts and industry in removing all impediments to advancement; but it does not in the least prove that it is not a much wiser method in a young practitioner to prevent their occurrence, by the previous attainment of every requisite qualification.

Nor will such preliminary and ornamental studies, cheerfully pursued to a just length, require so much of the student's time, as at first sight one would naturally be led to suppose. Part of them will in a great measure have been finished in his earlier days; part will be the pleasing task of his youth, before medical inquiries are considered as his primary object; and part, cautiously interspersed, will serve to mitigate the severity of drier studies, to unbend the mind, and refresh it under the fatigue of closer mental exertions.

On the other hand it ought here to be observed, that a chief difficulty sometimes lies in
retraining

restraining within due bounds the flights of aspiring, presumptuous youth, ever fluctuating and unsettled; and in preventing them from pursuing the splendor of ornament to the neglect of their principal object. Such error is not uncommon, and whenever it occurs, it gives presumptive proof of weakness of judgment, aversion to medicine, an inconsiderate indolence of disposition, or too much artifice of conduct.

During my residence at different seminaries of medical instruction, how often have I seen and regretted, as a mark of a weak head, this abuse of medical education! How much frivolous ostentation displayed by several gentlemen, who, under a pretence of acquiring fine learning, have lost in an idle chase after an empty shadow all sight of substance in every department of literature, and exhibited themselves at last in the despicable character of a finished coxcomb, or a wrangling insupportable pedant.

Sometimes such undue attachment to ornamental learning, springs from a natural aversion to the *Æsculapian* art. Where this is the case, every inquiry into medicine proves a displeasing task. The mind dissatisfied, necessarily shuns
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what it dislikes, and seeks elsewhere employment of a more engaging kind. And since the real antipathies of nature are seldom if ever perfectly overcome, such a practitioner, though interest may prompt him to follow his profession for a livelihood, will never act in that capacity from real motives of choice, or from a sense of pleasure in administering relief to distress.

If an inconsiderate indolence of disposition check his design of acquiring medical erudition, the study of other liberal sciences, dedicated to ease and leisure, becomes in the language of an eminent satyrist,

The specious trifling of the mind;
Or is at best a secondary aim,
A chase for sport alone.

But it seems that in some men of genius, a designing artifice is the *primum mobile* to action, and presents itself as a leading principle in the explanation of their conduct. They know that the world is unable to form an accurate judgment, concerning a practitioner's real merit in his profession. They plan therefore a scheme of acquiring fame in a readier way.

way. They study to become men of letters, men of refined taste, but not physicians. Thus stocked with what they deem a current coin, they artfully engage with the world to establish their character as professional men. If, born under the influence of a propitious star, they meet at their first essay with unmerited success, they confidently rest assured of preserving, according to general custom, their reputable names through life, and unmolested, of obtaining the privilege to kill or cure *secundum artem*, numbers of those whose good opinion they had undeservedly gained. They probably may injure many more than they can relieve, but this will not appear strange, when we reflect, that the art of sinking* in most professions, and particularly in that of medicine, is confessedly much more perfect than its contrary, and not near so difficult to be obtained. Such a one will of course fall into so many errors and mistakes in the treatment of diseases, that he must by habit be prepared to hear them mentioned without the least emotion or surprise. His countenance he must have taught under every disaster to indicate an apparent evenness and tranquillity of mind; and his tongue
artfully

* Vid. Swift on the Bathos, or Art of Sinking, &c.

artfully to color over the failures of his judgment.

From whatever motive, whether idleness, ignorance, designing artifice, or the like, the study of any other liberal science interferes too largely with that of medicine, the consequences are always unhappy. If the established practice, as some of these gentlemen stile it (of which they have only got a very moderate knowledge) happen to be erroneous in particular parts, they having unalterably fixed their mode of practice by that standard, seem from their obstinacy to think it an insult to their pride as well as their understanding, to relinquish a recipe which has been an old offender, and substitute an useful remedy in its place.

Others, as empty, affect to follow a different plan. They have joined together, very unlike dextrous workmen, a few rough fragments of practice, which by chance they have incorrectly obtained ; and then please to call this result of their patchwork, a system of their own practice, wholly grounded on their own experience. Such a system, they advance, every practitioner ought to form for himself. They forget that
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the most finished and perfect system of practice has ever been held to be the product of the united labors of men and ages. This system indeed every practitioner of medicine, to the utmost of his abilities, is bound to acquire by the strongest ties of truth, honor, and humanity.

A physician, as was before observed, should only pursue preparatory and ornamental studies to such a length, as to furnish his mind with the knowledge of a gentleman in polite literature, and not vainly aim at rivaling the professed masters of each separate branch*. In such a course of preliminary studies, some parts will doubtless be more pleasing, interesting, and really useful than others. Different men, by their natural inclinations, will be biassed in their choice of different parts, though of equal importance. Here it will be both prudent and advantageous to yield a little to
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* One science only will one genius fit,
 So vast is art, so narrow human wit,
 Not only bounded to peculiar arts,
 But oft in those confin'd to single parts.
 Like kings we lose the conquest gain'd before,
 By vain ambition still to make them more :
 Each might his sev'ral province well command,
 Would each but stoop to what they understand.

Essay on Criticism.

the dictates of nature, and indulge her in cultivating somewhat more closely, what she most admires.

But where a physician does not pursue medical learning as his principal object; where his mind is not eagerly bent on obtaining the established doctrines, the new discoveries of truth, and valid improvements in his profession; where other arts and sciences have gained his affection, and are permitted to engross too considerable a portion of his time; the public may doubtless complain, that such a one puts an open abuse on medicine. And when indeed we reflect on the great extent of the study of physic, the complaint appears justifiable and well-grounded. It is not intended however by this observation, to offer a single word in favor of that narrowness of spirit in some people, who seem to think that a physician should not, like any other gentleman, be at liberty to bestow a leisure-hour on any useful or entertaining subject, from which by nature and cultivation he may expect to reap a satisfactory pleasure. Such a sentiment would cast a reflection on the judgment of its author, and offend against generosity, when maliciously intended to derogate from deserving merit. It is

is here meant only to blame that physician, who too eagerly occupied in other employments, be it philosophy, mathematics, natural history, or any other branch of literature, neglects on his part the more necessary and important study of preventing and curing disorders.

But if notwithstanding large indulgences in some favorite pursuit, he endeavor to obviate by redoubled diligence this objection to his plan; he would do well to consider, when contemplating on the causes of diseases and the frailties of human nature, that his own body, as well as that of any other person, is a fit subject to feel the effects of a morbid power; that too severe exercise of mind, imprudently continued, may debilitate his constitution, and induce lasting and often irremediable complaints; and that if he impair his health, the richest soil of human happiness, he may purchase even learning itself at too exorbitant a price, and prematurely rob society of a man, whose greatest fault was an activity of mind, disproportionate to his strength. It affords us however satisfaction to reflect, that, from the principle of self-preservation and the languid unpleasant feelings which follow excess of study, nature has wisely intended to prevent the

frequent occurrence of such unfortunate incident; and that she in a great measure succeeds in her design, unless where ignorance favors error, or an unbridled ambition, or excessive thirst of gold, leads men to overlook her kind preserving admonitions. The consequences of such unnatural mental fatigue are particularly unfavorable in youth, at which period of life instinct directs us to be active, and nature dreads a sedentary retirement.

ON THE WANT OF MEDICAL LEARNING.

THE most serious and common defect among the practitioners of medicine, is *ignorance in their profession*. Instinct may have directed to some useful points in practice; but, unaided by experience, nature alone, however indulgent, never made a physician. The useful and valid discoveries in the practice of medicine may doubtless be attributed to time and experience; whether that experience were the result of chance, of rashness, or design,—or derived from the instinctive actions of the brute creation. Experience taught us to cure a pleurisy by bleeding, to alleviate pain by the anodyne power of opium, and to prevent the periodical returns

returns of an intermittent fever by the Peruvian bark.

Deficiencies in ornamental learning may prove detrimental to the practitioner himself; but ignorance in his profession argues, with respect to others, principles both unjust and ungenerous. It offends true native sensibility to think that any part even of the brute creation, however humble, should suffer from the art of medicine, disturbing the wise and well-directed operations of nature. But how deeply does it wound a feeling mind to reflect, that the human species, being the most frequent object of medical practice, should, from medical ignorance, unfortunately experience the greatest sufferings.

Under the head of preliminary knowledge, several causes, and some of them indeed of a very important nature, which tend to induce the want of medical learning, have been previously noticed. We have there mentioned natural incapacity, a weakly disordered constitution, a scheming dishonest artifice, an inconsiderate indolence of disposition, a partiality to foreign accomplishments, and a settled aversion to the study and practice of medicine.

Cool

Cool reflection, uninfluenced by art or prejudice, cannot fail to discover such obvious sources of medical inabilities.

Botany, Chymistry, Anatomy, the Materia Medica, the Institutions and the Practice of Medicine, are considered as those branches of science, which are more particularly allotted to the study of the physician. They at once present to his view a series of labors arduous and extensive. To collect the mind within itself, to call forth every active power, and steadily to cultivate such vast fields of science, requires a resolute perseverance, an able head, and a retentive memory. It will be necessary for the student of medicine, within even the circle of medical literature, to make a judicious choice of those parts, which are the most essential and interesting; as his primary objects and deserving his greatest attention*. It will not be sufficient

* This caution is particularly necessary to those in whom vanity is the ruling passion, and who are consequently led on to grasp at every thing without either reason or common sense on their side. These vain-glorious geniusses may read an useful lesson in the following lines of Mr. Pope :

Fir'd at first sight with what the muse imparts,
In fearless youth we tempt the heights of arts,

While

sufficient that he should once have studied and clearly understood those first lines of his profession. But after having weighed in the exactest manner his authorities for every doctrine, he ought repeatedly to re-examine this select portion of his medical knowledge, and imprint it deeply on his mind, in order that he may be able on every occasion to apply it to immediate use. In several other parts of the study of physic of less utility to its ultimate end, a competent knowledge of general principles only is all that is requisite or attainable, provided less material pursuits be not inconsiderately preferred to those of a higher nature. If inexperienced youth be too ambitious to learn every thing minutely, he will discover at last the impossibility of executing his weak designs,

While from the bounded level of our mind,
 Short views we take, nor see the lengths behind;
 But more advanc'd, behold with strange surprise,
 New distant scenes of endless science rise!
 So pleas'd at first the tow'ring Alps we try,
 Mount o'er the vales, and seem to tread the sky;
 'Th' eternal snows appear already past,
 And the first clouds and mountains seem the last:
 But, those attain'd, we tremble to survey
 The growing labors of the lengthen'd way,
 'Th' encreasing prospect tires our wand'ring eyes,
 Hills peep o'er hills, and Alps on Alps arise!

signs, and find himself ignorant of many particulars relating to his profession, which he ought indispensably to have known, in order to practise physic with credit and success. The memory of man, though capable of great improvements from exercise and culture, yet doubtless is limited and circumscribed, and when loaded beyond due measure, it sinks under the oppressive burden of learned lumber.

Botany is that science which leads to the knowledge of each individual in the vegetable creation; and reduces all the varieties and species of vegetables under distinct orders and classes, by which means the memory is greatly assisted, and that most extensive subject brought within narrower bounds and consequently rendered of much easier comprehension. For the first successful attempt towards this arduous undertaking, we are indebted to the great Linneus, whose memory ought ever to be held in the highest estimation. The study of botany is necessarily comprehended in the education of a physician. A great part of this useful branch of medicine may be learned in early youth, and will afford both exercise and amusement, as well as instruction. The finishing stroke may be given to it, during either the first

first or second year of the student's attendance at college, which ever is most convenient to him ; but if not done the first, it should not be delayed longer than the second.

Chymistry is one of the most extensive studies in the world. It is conversant with almost every subject in nature, whether of the animal, vegetable, or mineral creation, all of which more or less it analyzes and examines. Some parts of chymistry, however, fall more immediately under the consideration of the physician, such as saline substances, whether acid or alkaline—metallic bodies, and their various combinations with other matters—air and water, and their different states of purity and impurity—and all mineral waters, together with the numerous ingredients with which they are impregnated. Hence may be deduced the great importance of chymistry in the study of physic ; for, without a competent knowledge of it, it is impossible for a student, with any tolerable propriety, to enter on the cultivation of any one branch of medicine except botany and anatomy ; for which reason indeed the study of these last may accompany that of chymistry.

Several parts, however, of botany and chymistry are as much the object of the gentleman or the naturalist, as the physician; and though they may be entertaining and ornamental, can by no means be considered as essential knowledge to a practitioner of medicine. Those therefore merit in proportion a smaller allotment of his time and labor. But where the nature of the subject, whether chymical or botanical, bears special relation to the office of a physician, there he ought to be doubly attentive and observing, so as to suffer nothing of importance to escape his accurate observation. In botany he should attend to the general structure, arrangement, and classification of plants, without descending into such minute disquisitions, as are only requisite for the professed followers of this curious and useful science. In chymistry he should acquire in particular the knowledge of those parts, which lead to the establishment of physiological truths, the discovery of pharmaceutical laws, and the composition of chymical remedies.

Anatomy teaches the knowledge of the figure, structure, situation, connection, and uses of all the parts of the human body. A deep and correct knowledge of it therefore is absolutely necessary

necessary to the successful practice of every branch of the healing art. Without this, it is impossible to understand the doctrines of the animal economy, either in a sound or a morbid state; or in such a labyrinth of confusion, to administer, with any tolerable confidence or propriety, remedies either to palliate or remove a complaint, the seat and nature of which is totally unknown.

It must at the same time be observed that the student's attention ought to be particularly directed to the more important parts of this interesting subject; and a less proportion of his time and labor devoted to the trivial and less material. I mean here more especially to blame the impropriety of scrutinizing, with undiscerning exactness, into all the little processes, foramina, and depressions of bones—the minute distribution and attachments of muscular fibres—and the very uncertain course and situation of the smaller blood-vessels and nerves. I may add likewise the inutility of inquiring too scrupulously into the nominal learning of the anatomy of the brain. A regular detail of particulars, like those, may increase the overgrown size of anatomical writings—render the subject more intricate, if

not more important, to beginners—and multiply the number of pompous insignificant terms,—but it can never be made subservient to any one useful purpose in practice. A surgeon indeed should push his inquiries, into the minutiae of anatomy, further than is necessary for a physician. He should acquire a very correct knowledge of all those parts, upon which it may be occasionally requisite to perform surgical operations, some of which indeed are of so nice and difficult a nature, that the success of them depends in a great measure on the operator's anatomical skill. An accurate knowledge, therefore, of the structure of the human body, is justly regarded as the first requisite in the art of surgery. Without this, the surgeon, however excellently formed by nature, must proceed in every important operation with diffidence, uncertainty, and danger.

Students of anatomy, whose design it is to practise surgery, ought to examine attentively the appearance and situation of the bones, tendons, muscles, blood-vessels, glands, &c. which lie near the surface of the body; and acquire, as far as it is attainable by external examination, an accurate knowledge of what
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may not improperly be termed external anatomy. To know in this way the natural firmness, texture, position, appearance, size, and connection of parts in a sound state, will enable them better to ascertain the changes, which are occasioned either by accident or disease.

As the surgeon should cultivate with exactness those parts of anatomy, which are most frequently the subject of operations; so the physician should be particularly attentive to have just notions of the size, structure, situation, and connection of the viscera or internal parts; and be able to ascertain, as correctly as may be, the boundaries of each viscus, what proportion of any cavity it occupies, how far it may be extended in any given direction, and what are its different situations in different positions of the body. Such inquiries, made with judgment, are admirably fitted for ascertaining truths of the utmost consequence towards the discovery and distinction of diseases. From ignorance of those particulars, how often are inferior practitioners confused, and at a loss to find out the real seat and nature of diseases, which an able anatomist would have discovered at once with ease and certainty.

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If a student have frequent opportunities of being present at anatomical dissections, it is perhaps advisable to defer the perusal of authors, till from nature he has formed some true and accurate notions of the human anatomy*. Afterwards the writings of the best anatomists may be studied with advantage; and, along with them may be consulted the most correct anatomical plates, such as those of Albinus, Eustachius, &c. which will tend to throw considerable light upon the subject. They will confirm the knowledge of facts, correct mistaken opinions, clear up matters of doubt, teach things which were not known, and enlarge the scope of future observations, as well as render them more pointed and judicious.

With respect to the choice of authors, it will be proper for the student to consult the professor of anatomy whom he attends, who will of course recommend to him the best and most perfect. At first, concise abridgments of anatomy, such as those of Keil, Heister, Cheselden, &c. will be the properest, as being of
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* This was the opinion of the late eminent Dr. William Hunter, Professor of Anatomy in London,—*Hunter's Lectures on Anatomy*.

more easy comprehension to beginners. Afterwards the most complete systems should be studied, which will afford the greatest improvement. Winslow's Anatomy is an excellent work of this kind. There are likewise several valuable productions on particular parts of anatomy; such as Monro's Osteology, Monro on the Lymphatics, Douglas on the Muscles, &c. But whatever authors the professor of anatomy recommends, it will be advisable for the student to purchase and carefully peruse them, as they will probably bear the nearest resemblance to his own method of instruction.

Besides a regular attendance on anatomical lectures and a judicious perusal of authors, it is undoubtedly requisite for a student, who wishes to become a deep and correct anatomist, to practise the art of dissection. Such an employment, though to most men of a very unpleasant nature, is however of the utmost consequence in the education of a surgeon; for without it his anatomical studies cannot be completed. The improvement of anatomy and surgery, as well as of the practice of medicine itself, has been greatly retarded from the prejudices of the populace against the opening
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and dissecting of dead bodies, or from the neglect of gentlemen of the faculty to profit by opportunities which have presented themselves. But dissection leads so directly to the easiest and surest method of obtaining a correct knowledge of anatomy, that it ought at least to be extended, if possible, into all the great seminaries of physic, and practised by students with a laudable spirit and emulation. The prejudices of the public against this necessary and useful method of acquiring anatomical knowledge are daily declining; and in a short time it is to be hoped, that, for the sake of the general good of mankind, they will be wholly removed.

The study of comparative anatomy is both pleasant and interesting. The mind delights to indulge in comparisons; and discovers a thousand perfections in analogy. From the dissection of other animals, various doctrines of an intricate nature relating to the human frame have been established, and many important truths first discovered, and afterwards confirmed. The known laws of the circulation of the blood, the theory and process of digestion, the doctrine of absorption, the discovery of the leading functions of the nervous system

system respecting sense and motion, together with many useful facts concerning the irritability and sensibility of muscular fibres and other parts of the body, afford the strongest proof of the utility of comparative anatomy.

On account of the intimate connection between anatomy and surgery, the professors of the first have generally thought it incumbent upon them, to explain in their public lectures the leading facts and principles relative to the latter. The custom is laudable, and highly advantageous; nor is it in the least a difficult task for any one, skilful in anatomy, to acquire the rudiments of surgery. Every student of medicine, although he should not intend to practise in the capacity of a surgeon, will find it his interest to be diligently attentive to a subject of such undoubted utility, when learnedly discussed before him. Cases in surgery, and in physic more strictly so called, are often found complicated in such a manner, as to render it impossible for any one to practise successfully in the last, without a competent knowledge of the first. Nor is it consistent with the dignity of a physician, to meet in consultation with an experienced surgeon, and not be able to reason with him on the true state

and nature of the case; or on attempting to give an opinion to fall, from the complication of diseases, into repeated errors, and stand corrected by one, whose respect he ought to have commanded by intrinsic merit and extensive erudition. Besides, as we have weak practitioners in every branch of the healing art, knowledge of this kind may sometimes enable a physician to rescue a friend from the rash treatment of an illiterate surgeon. Unforeseen accidents too may sometimes put it in his power, with more moderate skill, to give at a happy juncture of time an assistance far more effectual and successful, than, after the delay of a few hours, the most experienced surgeon could procure. By a single thought indeed of so learned a physician, life itself may sometimes be preserved.

After the study of botany, chymistry, and anatomy, the mind is well prepared to enter on the study of the *Materia Medica*. This branch of medicine teaches the means, which are best adapted to answer the different indications of cure that arise in the treatment of diseases. Hence is derived its importance. In explaining the analysis and composition of remedies, it is frequently necessary to have recourse to
 chymical

chymical principles ; and it is impossible to reason on the effects or operations of medicines on the human body, without a previous knowledge of its structure.

The materia medica, considered as a branch of medicine, has often been cultivated in a very weak and negligent manner, and consequently with little success. It has been crowded with many insignificant articles, which have been indiscriminately used, and, from ignorance or ostentation, undeservedly extolled. How many thousand remedies have been recommended to the world with all the pomp and extravagance of praise, that blind enthusiasm could dictate or artful falsehood invent ; which remedies afterwards have been found by experience to be inert, noxious, or inferior to others of a similar kind, previously and better known. The theory of the operation, and the effects of medicines, have been misrepresented in a variety of ways—defended by some, and strenuously denied by others—embraced from opinion merely,—and rejected at last unsupported or confuted by facts. Strange that the only rational method of improvement should have been so shamefully deserted ; and that that knowledge, which ought to have been derived

from careful attention to facts*, from repeated observations on nature, and interesting experiments conducted with industry and judgment, should rest for its support on the vague hypotheses of idle fantastical men, on the wild inventions of genius misapplied, on the artful insinuations of a deceiver, the extravagant assertions of a quack, and the marvellous narratives resulting from the credulity and ignorance of a great number of practitioners in physic, who value their art only because it gains them a livelihood.

The virtues of remedies can never be correctly ascertained, unless they are prescribed with simplicity, that the changes, which are induced on the body, may be discovered by the accurate observer. Without attention to this circumstance, our knowledge of the operations of medicines, a subject so intricate, yet so essential to practice, must ever remain involved in uncertainty and confusion. The unaccountable number of ingredients which some practitioners have thought fit to enter into a single recipe, is a discredit to the art. Such practice may lengthen a prescription, please a shallow pompous

* Vid. Lord Bacon on the Advancement of Learning.

pompous mind, impair the efficacy of the separate ingredients, conceal their powers, render them inefficacious or even injurious, but will very accidentally indeed add any thing useful to the composition, which some one or two of the materials did not possess in a much higher degree. But can it be deemed prudent, to adulterate useful remedies by the admixture of inferior, when they do not even contribute either to the elegance or utility of the compound? The art of prescription is then most perfect, when it teaches us to exhibit those medicines, which are best adapted to the cure of any complaint, in the most simple, agreeable, and efficacious forms.

In many cases the salutary operation of a remedy is in great measure dependent on the mode of its administration. If it be at first given in too small a dose, its inactivity may prove the immediate cause of its failure. Or what is equally as distressing, use will sometimes render a remedy habitual and less efficacious, so that hence the disease, acquiring strength by delay, will not yield to it, though prescribed in the most effective manner. But the same medicine, had it been judiciously administered at first in a sufficient dose, would have

have effected a speedy cure, without any injury to the constitution, or unnecessary trouble and expence to the patient.—Or a physician may be consulted in so critical a situation of a disease, that if his first prescriptions be too feeble and inert, the happy moments of procuring relief may be lost in the fruitless expectation of their effects, and the patient sink under his complaint without a chance of recovery.—If, on the other hand, a medicine be exhibited in too large a dose, it will frequently disorder the stomach, excite unexpected vomiting, and leave the patient after its operation unfortunately prejudiced against an useful means of cure, but justly dissatisfied with unskilful treatment. Frequently too a fault of that nature renders a necessary remedy injurious, tending to aggravate a disease, which in all human probability it would have alleviated or removed, had it been at first judiciously administered.

Allow me therefore to recommend to every student of medicine, a close attention to this part of his studies. He must inform himself correctly concerning the choice, nature, operation, and doses of remedies in general, and as applicable to particular cases. He should be
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well instructed in the most successful modes of exhibition, and learn the most simple, agreeable, and efficacious forms of prescription. He ought not only to attend to these particulars in medicines prescribed for adults, but also in those for children, where it is of still greater moment to consult the taste, and unite as much as possible agreeableness with efficacy. Without attention to knowledge of this kind, which is often greatly neglected, a young practitioner must unavoidably fall into mistakes, not only dangerous to his reputation, but, what is infinitely worse, hurtful to his patients. The doses of medicines in the diseases of infants and young children are so very different from those of adults, that, without strict attention to them, a young man will be unfit to prescribe for the sick with safety. Apothecaries too should be very cautious in making up active medicines for children, since the least error or inaccuracy may be dangerous, if not fatal.

The medical student, who designs to practise as a physician, should study with diligence the London Dispensatory, and one or two of the best and most accurate Forms of Prescriptions, published by individuals. He should have a
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book likewise for the purpose of entering every useful and efficacious recipe, which may fall under his observation. He should frequently taste the medicines, which his patients are taking, whether prescribed for them by himself or others. By this method he will, at the beginning of his practice, satisfy himself concerning the taste and palatableness of the remedies made use of, and in his more advanced years, he will, as far as possible, be a correct judge of the goodness of the ingredients in any recipe, and the neatness and accuracy of the person who compounds them.—Still further to qualify himself in this branch of his profession, it will not be improper for him to have the advantage of attendance for eight or ten months at an Apothecary's Shop, or a public Dispensary, by which means he will become well acquainted with the different medicines employed in practice and their mode of combination. But I confess myself to be no friend to the plan adopted by some, who bind a young man, intended to be a physician, an apprentice for four or five years to an apothecary, the greatest part of which time may be considered as lost to every valuable purpose of his profession. By this mode of education too he is often left deficient in languages and classical learning,

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which is an error seldom to be corrected at any future period of his life.

When the student has advanced thus far in the different branches of medicine, he proceeds with every desirable advantage to give the finishing stroke to his intended plan of education. Two of the principal objects of his studies still demand his closest attention, viz. *the Institutions and the Practice of Medicine*. These constitute the great system of his art—these therefore he must study with accuracy and correctness. The institutions of medicine, commonly termed the *Theory*, comprehend the *physiology* or the doctrine of the human body in a sound state, the *pathology* or the doctrine of diseases, and the *therapeutics* or the general indications and means of cure. The practice of physic treats of single complaints, and teaches us to apply general principles to particular cases. Here are delivered the characteristic symptoms of diseases, their history or description, their most frequent complications with other disorders, the variety of their causes both proximate and remote, the prognostic or judgment of the future event, the indications of cure, and lastly the most successful methods of treatment. Along with these also is necessarily

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included the best method of preventing relapses; which is indeed as much the object of a physician as any one part of the practice of physic. The doctrines of the theory or institutions of medicine ought to be cultivated, prior to those of the practice. The practice of physic is the ultimate object of the physician. To that central point, therefore, his chief labors ought to be directed.

A knowledge of anatomy, chymistry, and the materia medica, should be attained, before the student can with any prospect of success turn his attention to the theory of his art. As it is highly improper for any one, without a competent knowledge of anatomy, to enter on the study of the institutions of medicine, nothing but mere necessity should ever compel a young man to engage in the latter, without a sufficient knowledge of the former. A previous knowledge likewise of chymistry and the materia medica is of importance in the same point of view, but not equally so with that of anatomy. Of the two, a knowledge of chymistry is much more essential, than that of the materia medica, to the study of the institutions of medicine. Lectures on the theory indeed may without any great inconvenience be attended

tended at one and the same time with those of the *materia medica*; because the therapeutics or doctrine of remedies being the last and shortest part of the theory, the student will consequently have acquired enough of the one, to comprehend the rationale of the other,

When studying the institutions of medicine, young men would do well to attend closely to subjects of the greatest utility and nearest relation to practice, which ought therefore to be carefully distinguished and separated from those, which serve merely to indulge a rambling curiosity, or gratify an idle turn of thought for empty speculations. Every man's own prudence and good sense must direct him in those respects. I shall only just remark, that the physiology and pathology of the nervous system, important subjects, but which have been too palpably neglected, demand the closest application. On those parts of medicine in particular the late Dr. Cullen and Dr. Gregory, by unwearied industry, steady attention to nature, and great force of argument, have happily discovered and confirmed many important laws and interesting facts, which tend successfully to illustrate some very intricate doctrines of the nervous system, and to regulate

several difficult points in practice which before were little understood.

The first Lines of Physiology by Dr. Haller—the Pathological Institutions of Dr. Gaubius—and the Elements of Therapeutics by Dr. Duncan, are admirable abridgments of of their respective subjects, and well calculated, when carefully and repeatedly perused, for preparing the student to enter fully on the discussion of those three principal divisions of the theory of physic.

The study of the practice, when the object of pursuit, should be cultivated in every part with spirit and judgment, but particularly labored in those parts, where it treats of the distinction and cure of diseases. Methodical Nosology, which gives short but accurate definitions of all the complaints to which human nature is obnoxious, is a most useful and interesting part of the practice of medicine. The Synopsis of Methodical Nosology, published by the late Dr. Cullen, is an excellent work of the kind. *En libellum* (as Boerhaave affirms of his own Aphorisms) *mole parvum, gravem materie, nec sine labore natum.* There the definitions of disorders, or their characteristic symptoms,

symptoms, are delivered with a concise, just, and masterly exactness; and the rules of true nosology adhered to with greater correctness, than has appeared in any other work of the kind, or than the present state of physic had taught us to expect.

In acquiring the knowledge of the method of cure, judgment and correctness of genius are the first requisites in a student towards just improvement. Practical distinctions and observations, drawn from the causes, duration, changes, and symptoms of disorders, and made with a view to point out the propriety or impropriety of any immediate application of remedies, deserve most serious attention. Without regard to such particulars, a physician must practise his art at random, be constantly liable to deviate from every systematic rule, and to act cross purposes in his unsteady methods of cure.

If a doubt occur on any point respecting the treatment of a disease, it is an unpardonable fault in a student to remain inactive in a state of uncertainty, and not to make every necessary inquiry of his more aged companions, or even of the professor in whose department it may be,
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in order to satisfy himself concerning it. We ought to take all possible pains, to furnish the mind at first with truth. Opinions adopted on slight foundations are often erroneous, and of course have pernicious influence on our future practice. Uncorrected they may for some time lie dormant within us; but they will be prone at last on a favorable occasion to stand forward, to present themselves in a line with facts, to puzzle the memory then obliterated by length of time, and by stealing on the understanding, to mislead the judgment, and gain admittance for sound doctrines.

As we have before remarked, that anatomy can never be correctly known by any one, who does not practice the art of dissection; so we may here remark with equal propriety, that the practice of physic, considered as an art, can never be attained, unless the student seize every opportunity of being himself in an extensive manner attendant on the sick. By means of public Hospitals and Dispensaries (a noble proof of British generosity), ample provision is made for young men to be as much occupied in practice, as emulation, the great spur to improvement, shall prompt an active mind to desire. A most diligent attendance on the sick
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at Hospitals and Dispensaries, is of the greatest importance in the education of a physician; but then more especially so, when he visits them along with an eminent experienced practitioner, who will act the part of a friend; or with one who engages himself by reading public clyrical lectures, to explain the basis and principles of his practice. If a student should complain, that from this source he has not reaped advantage equal to his most sanguine expectation, the chief cause of such disappointment, provided he be in health, may justly be attributed to his own neglect. When engaged in practice at any public charitable institution, he should be minutely attentive to the histories of diseases—examine those patients who, without any detriment to themselves, can bear to give him an account of their complaints—learn by repeated observations on similar cases their general habit and appearance in all their different stages—notice well the most favorable time for medical assistance—and be a scrupulous observer of those changes, which may be justly regarded as the happy effects of his remedies. For diseases should not only be known when at their height or acme, but also as far as possible at their commencement and decline. Great practice and long experience, it is true, are necessary

necessary to attain to this pitch of perfection; but, difficult as it may be, it is absolutely necessary to the successful treatment of diseases.

To compile an *Abridgement* of the practice of medicine consisting of the heads of the most material parts, judiciously selected from the immense chaos of medical matter, is an excellent employment for students, not only as being a most advantageous subject for the exercise of their judgment, but as often leading to a production, which may prove to themselves of singular utility in their future practice. For it is the duty of a physician to attend to all those circumstances, which, though apparently minute, may in the end be conducive to the recovery of his patient's health. Whenever a case of difficulty and danger occurs, such short heads of practice are soon examined, by which means a young man will be in less hazard of overlooking any principal part of the cure respecting either regimen or medicine. The great Sydenham with this view published his *processus integri*; in consequence of which those who had not then opportunity or abilities to compile a syllabus for themselves, might have the benefit of one prepared to their hands.

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As closely connected with the practice of medicine, it is of importance for a physician to understand the leading principles of *Midwifery*. In the practice of physic, he will frequently find diseases complicated with breeding cases, and greatly varied and influenced by them. The disorders of pregnant women, those during delivery, and those subsequent upon it, are often of a very sudden and alarming nature. Here his attendance will be frequently necessary; for there are many practitioners in the obstetric art, who are little qualified to act in the capacity of a physician. But surely that physician's practice at such junctures must, if he be destitute of a competent knowledge of midwifery, be very timid and inefficacious, or rash and dangerous. Several observations, pointing out to him the advantages of the study of surgery, are equally applicable to the present case. If a physician intend to practise midwifery himself, it will be incumbent upon him to engage in the study of it with the closest attention. A gentleman, learned in anatomy and well instructed in the science of physic, will find himself able, without much difficulty, to obtain correctly the theory and practice of midwifery; an art which of late has received the greatest improvements.

He will also diligently attend to the practical part of it, seize frequent opportunities of being himself conversant in it, and use with the utmost caution every judicious means of affording relief to those distresses, which are peculiar to the fair sex.

So much for the particular branches of medical learning, which are necessarily included in the education of a physician. Few, we hope, will think this plan too difficult or comprehensive, who know the intrinsic value of health—who, on account of public ills arising from medical ignorance, feel within themselves the generous emotions of disinterested humanity—or who are endowed with virtue, favored with opportunity, and blessed with abilities to render an honest service to their country.

During the prosecution of this plan of education, *Medical Societies* established on a liberal footing by a select number of students, and conducted with spirit and judgment, are institutions admirably calculated for the real improvement of youth. Here gentlemen have an opportunity of displaying their talents, of exercising them in thinking and speaking on a variety of subjects, and of hearing on many useful

ful and difficult points both of theory and practice the learned opinions and copious strain of argument, with which some young men of genius enrich their harangues. Besides it is occasionally incumbent upon each of them to deliver in his turn a dissertation on some medical subject to be canvassed and impugned by others, who are then to be considered as opponents. A spirited emulation is laudably promoted. When a young man studies any subject, on which probably he may soon be obliged to dispute, every useful fact and observation relative to it strikes the memory with redoubled force, and leaves a more lasting impression. Any gentleman, therefore, a member of such an institution, whose business is so planned, as to leave him a few vacant hours at his own disposal, may employ them to excellent purpose in preparing regularly for the ensuing subject of debate. And permit me to advise him on these occasions to lay aside all bashfulness and false modesty, and freely to deliver his sentiments on every subject, which he has carefully studied and understands. But to harangue boldly on any topic without a sufficient knowledge of it, proves a man to have a weak mind with great vanity, and degrades him in the estimation of his friends and companions.

panions. For a becoming modesty is as peculiarly amiable in youth, as a forward impertinence is disgusting.

The greatest *Industry* and *Application* is certainly due to so important a study as that of medicine. Sometimes indeed, though rarely, in works of taste, where genius and imagination have full room to sport, valuable performances of wit, humor, and invention, executed with spirit and judgment, have, without any very close application to study, been ushered into the world. But in sciences of an abstracted nature, in those built on facts and observations alone, where fancy and imagination can give no aid at all, knowledge without industry can never be obtained, nor falsehood detected, nor truth discovered and supported.

To complete the education of a physician, *Time* also must be added to industry. Without the advantages of opportunity but small progress will be made in any art like that of medicine, which is as extensive as it is useful. A proper allowance of time therefore is indispensably requisite for the student of physic, be his abilities ever so promising. Yet how often do we see young men, after having resided
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eight or ten months at an university, hurried immediately into life on their own accord, or by the shallow advice of impatient friends. In many cases, imprudent steps of this kind can never be retrieved. In so short a space of time, they can only have had a very confused and superficial survey of the science of medicine. On the contrary, if a young man who is both sensible and industrious have had proper opportunities of improvement; one cannot refrain from giving him the credit of knowledge in his profession in proportion to his years. From the negligence of youth and from defect of education, we too often meet, among the practitioners of physic, with the unhappy combination of ignorance and old age. Before any one attempt to follow this profession, he ought to be deeply instructed in it, and correctly acquainted with all the useful discoveries and improvements in medicine.

A young physician of good natural abilities and of extensive medical erudition, is well qualified to enter on the public discharge of his duty. He should consider himself as a member in the society of the world; pursue with the strictest integrity the general good of mankind; and then he may justly expect to
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reap the deserved fruits of his labors. Experience to him will be a real source of improvement. As he advances in years, he will advance in knowledge. But when a man first engages in practice a novice in the profession, and, unfortunately for the public, gains a reputation which he never deserved, his experience will only convince him of his ignorance. The errors of his early practice, it is true, may in some cases have warned him of the fatal consequences of the want of medical knowledge. Happy indeed if alarmed from this cause, he abandon the important office of a practitioner of medicine, and content himself with the discharge of the kind duties of a nurse. But what is very dangerous as well as too common, if, contrary to all just opinion of his worth, he find himself pursued by fame, he is naturally inclined to credit her flattering reports, to forget what he still really is, and to conceit himself wise. Then he is apt to practise with a mysterious pomp, with a cunning censorious artifice, but with pitiful medical indiscretion.

Such practitioners of medicine, as well as those of an opposite character, having a large intercourse with mankind, must unavoidably
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acquire, if they do not despise them, the ceremonies of polite address; and, as we have before observed, become insensibly acquainted with men, manners, and the world. The greatest part of mankind find them their equals, if not their superiors, in the common topics of conversation; and on this account are too ready (I need not say with what propriety) to suppose them deep indeed in their pretended object of pursuit. Fame, be it false or true, accumulates wealth. Riches purchase friends, give consequence, and command attention. The world thus is often deceived and imposed upon. The vessel expands her sails to a prosperous gale, and arrives at her wished-for harbour; but, instead of being loaded with valuable goods, she is weighed down and oppressed by an ostentatious bulk of worthless lumber.

The education of a physician, although often defective, is in general much more extensive and complete, than that of any other part of the faculty. The education of apothecaries, gentlemen to whom much practice is necessarily intrusted, is too often narrow and confined; and, which is a mortifying circumstance, they themselves frequently put to the disagreeable necessity

necessity of being chiefly their own instructors, or of improving from the practice and casual observations of others. The surgeon's education may be said in general, to hold a middle place relative to his own profession.

These truths are advanced as naturally arising from the subject, but without the most distant design to offend. It is to be wished that they may have their intended effect towards the advancement of medical knowledge. Mankind would soon be sensible of the advantage. The healing art, through all its departments, would be cultivated with less artifice, but with more industry and good sense.

I am partial to medicine as a science, and I esteem mankind. As I value therefore the welfare of the one, I cannot but wish the improvement of the other. The whole class of medical practitioners, having so important a charge committed to their care, should diligently qualify themselves for their profession. From a public and common cause, the encouragement of men without merit is to be regretted, as the bane of society and the destruction of health. Practitioners of medicine of every description should consider what degree of knowledge

knowledge they ought to possess, and mankind in general should know what they have a right to expect.

ON SOME OTHER DEFECTS AND ABUSES OF EDUCATION ARISING FROM VARIOUS CAUSES.

I. A VERY serious abuse of education among the practitioners of medicine is the *want* of *Religious Instruction*, without which it is impossible for a young man to pass through life with credit to himself or satisfaction to his friends. There are a thousand temptations, to which youth is exposed, and from which it is extremely difficult to escape, unless the mind be seriously impressed with just sentiments of religion. If young men, laboring under this defect of education, fall into the too fashionable but destructive vices of the age, such as gaming, drunkenness, and every species of debauchery, their parents or guardians may justly reflect upon themselves for so gross a neglect in the discharge of their duty.

The impressions of morality, made on young minds, prove for the most part deep and lasting; and are the surest means of preventing vicious excesses, which corrupt the heart, in-
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duce habits of idleness, spend their fortunes, waste their time, and ruin their health. How many hopeful young men do we daily see with every advantage from nature and education, who are entirely lost to themselves and to the world from the mere excess of sensual gratifications. What is more difficult to correct in youth, than habits of idleness, gaming, drunkenness, and debauchery? And how seldom does a young man, who is devoted to sensual indulgences, see his error till ruin stares him in the face?

But the argument, which is here urged, is more against the patrons and instructors of youth, than against youth itself. Youth is bold, thoughtless, and impetuous; full of self-sufficiency; fearless of danger; and ought therefore to be under restraint. If reason, assisted with religion, do not intirely put a stop to the impetuosity of youth and check its proneness to sensual pleasures, it may at least prescribe to it bounds of moderation. And it will readily be granted, that there is a wide difference between having one's health and fortune somewhat injured, or totally ruined. In the last case, all hope is at an end; but in the first reparation may often be made, and, by

a manly struggle through difficulties, he may rise at last to that station and dignity in life, for which he was designed by nature. The influence of early instruction in religion, though it may be lessened by bad examples and strong temptations, yet it will never be intirely lost.

When I speak of religion, I mean the *Christian Religion, pure and uncorrupted*, which is indisputably the only true religion in the world. It exalts the mind with the noblest sentiments of the Deity; and of all the infinite perfections of his nature. It furnishes us with just notions of his providence over all his works, without which we should still have been left to wander in heathenish darkness and superstition*. It presents to our minds the truest sentiments of piety, and universal benevolence. It supplies us with the most powerful motives to obedience. For what is more noble and highly gratifying to a rational being, than glorious prospects of eternal happiness†? Or (not to mention annihilation) what is more gloomy and mortifying than future punishment.

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* Lucretii Opera.

† Cicero de Natura Deorum.

But besides the intrinsic excellency of its doctrines and the refined purity of its morals, which of themselves are a sufficient proof of its truth, christianity is founded on a code of external evidence, which cannot be controverted with the least color of argument.

There is a *long chain* of *prophecies* concerning it, which, when duly examined and understood, affords an almost irresistible proof of its truth. Many of those prophecies indeed are yet fulfilling before our eyes, such as the desolate state of Jerusalem, the despersion of the Jews for near eighteen hundred years, the spreading of the gospel over the world, and the wickedness and infidelity of the latter days, &c*.—There is likewise a *great number* of *miracles* wrought in confirmation of christianity; which were not only public and in the face of day, but before the Jews, its most inveterate enemies, who, had there been any fallacy, would not have failed to have discovered and exposed it.

Now all those prophecies were accomplished and miracles wrought, not for any trivial purpose,

* Vid. Newton on the Prophecies.

pose, nor with any ambitious views, nor to gratify idle curiosity, but to make us wiser, better, and happier, both as to time and eternity, and that too without the least prospect of any temporal benefit to its first founders. On the contrary, those very persons who established it, instead of seeking any advantage to themselves, relinquished every prospect of temporal happiness, except what arose from conscious integrity; and they confirmed the truth of what they taught with the loss of their lives. They were men of the most exemplary morals, who in their life and conduct had the strictest regard to truth and sincerity, which on every occasion they inculcated in the strongest terms; and consequently would be the last persons in the world either to countenance dissimulation or to propagate falsehood. They were men too who did not set their affections on the riches, honors, and pleasures of this life; the emptiness and vanity of which they fully exposed to our view. The testimony of such undeniable witnesses as those, is not to be silenced either by the scoffs of the unbeliever, the ridicule of fools, the bold and false assertions of the ignorant, the undermining artifice of the wicked, or the lapsed period of near eighteen hundred years.

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These are facts in support of Christianity which are unanswerable. They carry along with them the indubitable marks of truth, and such marks too as no time can ever efface, so long as men continue to be endowed with the powers of reason. If the Gospel be an untruth, it must then be admitted that piety and benevolence, the love of God and the love of our neighbour, together with all the social and relative duties of Christianity, have originated in their utmost purity from men, who had no religion, no truth, no sincerity, and no fear of God before their eyes. It is better at once to assert that truth arises out of falsehood, sincerity out of hypocrisy, and the love of God, and all other religious and moral duties out of atheism; and that men naturally put no value on their peace of mind, their temporal prosperity, or even on life itself. This is unavoidably, though unwillingly, the language and concluding argument of a deist against Christianity, than which nothing can be more weak and absurd*.

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* If the reader is desirous of being more fully satisfied on this subject, I shall refer him to the following excellent authors, viz. Grotius de Verit. Religion. Christ.—Clarke's Demonstration of Natural and Revealed Religion—Addison's Evidences,

But it is not necessary here to enlarge on this copious and interesting subject. The character of the faculty with respect to religion has for some time lain under disgrace; and the *religio medici*, as it is generally understood, is intended as a term of reproach*. It is to be hoped that this

Evidences—Butler's Analogy—Jenkins on the Reasonableness and Certainty of the Christian Religion—Hurd on the Prophecies—Newton on the Prophecies, &c.—Along with these, a *careful and repeated perusal* of the *New Testament* excites in the mind the strongest conviction of its truth, as almost every page abounds with the performance of miracles, the fulfilment of prophecies, the excellency of the doctrines, the fidelity and holiness of its first followers, their artless but faithful narratives, their zeal for the cause of truth, contempt of riches and honors, bold opposition to received maxims of the world, patient sufferings, glorious prospects of future happiness, &c.

* “ But there are some peculiar circumstances in the profession of a physician, which should naturally dispose him to look beyond the present scene of things, and engage his heart on the side of religion. He has many opportunities of seeing people, once the gay and the happy, sunk in deep retired distress; sometimes devoted to a certain, but painful and lingering death; sometimes struggling with bodily anguish, or the still fiercer tortures of a distracted mind. Such afflictive scenes, one should suppose, might soften any heart, not dead to every feeling of humanity, and make it reverence that religion which alone can support the soul in the most complicated distresses—that religion, which teaches to enjoy life with cheerfulness, and to resign it with dignity.” Vid. Dr. Gregory on the Duties of a Physician, page 61.

this aspersión is false, and that as a body of men, we do not deserve it; but if it be otherwise, it casts the greatest reflection both on our heads and our hearts. “Mankind may have their religious opinions diversified by various superstitions; but religion is natural to the human mind, and every attempt to eradicate it is equally wicked and impotent*.”

“The method taken by the present patrons of infidelity to propagate their opinions is extremely dangerous. With a matchless effrontery, they insinuate, that all who avow their belief in natural or revealed religion, are either hypocrites or fools. This is attacking youth upon a very weak side. A young man of a high and liberal spirit, disdains the idea of hypocrisy; and from an ill-judged pride, is afraid of whatever may subject him to so mean an imputation. Vanity, again, is the most universally ruling passion among mankind, especially among young people, who commonly dread contempt above every thing, and resent any reflection on the weakness and narrowness of their understandings, much more than any imputation on their principles or morals.
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* Vid. Dr. Gregory on the Duties of a Physician, page 59.

But I will venture to affirm, that men of the most enlarged, clear, and solid understandings, who have acted in life with the greatest spirit, dignity, and propriety, and who have been regarded as the most useful and amiable members of society, have never been the men who have openly insulted, or insidiously attempted to ridicule the principles of religion, but, on the contrary, have been its best and warmest friends”*.

II. Another abuse of medical education takes place, when a young man is not fixed at a proper age concerning the *Profession* he intends to follow; by which means several years in early life are intirely lost. This is a matter of great moment; for even a few years thus wasted in the beginning of life are often never to be regained. As life is short and the art of medicine very extensive, it is necessary for a young man to employ nearly the whole of his time in the attainment of it. When I was at the university of Edinburgh, there were several gentlemen, who had spent some years in other professions or employments, before they began with the study of medicine. Some, for example, had been at first designed for the
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* Vid. Dr. Gregory on the Duties of a Physician, page 61.

church, some had entered on trade, some had been occupied in farming, and others had past several years in a vague irresolute state, having the appearance of an employment, but doing little or nothing to the purpose.

Not only with regard to his profession in general, but even of the different branches of the healing art, a person ought to determine what particular branch he designs to follow. Some young men intend at first to be apothecaries, some to be surgeons, and at last become physicians. One who is designed to be a physician, ought not (as we have already observed) to lose time by being bound an apprentice to an apothecary or surgeon; but should have a run only for a few months in an apothecary's shop, or at an hospital or public dispensary. In like manner a young man, who for several years attends chiefly to the operations of surgery, is losing time, if he means afterwards to practise solely in the capacity of a physician. To have a general knowledge of surgery is necessary for a physician; but to devote too much time to it is certainly improper, as it prevents him from acquiring that knowledge in the history, causes, and cure of diseases, which is essential to the successful practice.

practice of physic. To learn the minutiae respecting the operations of surgery is an arduous undertaking, and requires several years close application; and after all a man may be an excellent surgeon and a very bad physician. I do not mean to say that such a one will be totally ignorant of physic—that he will not be able to cure an ague, or to prescribe the bark in a putrid fever, or bleeding in a pleurisy;—but what I would infer is, that if a case of difficulty should fall under his care, he may be at a loss to discriminate the symptoms of it with accuracy, so as to form a just diagnostic; in consequence of which his practice will of course be vague and at random.—If on the other hand a young man first enter on the study of physic with a view to be a physician, and then change his mind and follow the profession of a surgeon, a like disadvantage will occur. For he may then be a very good physician, and have a sound judgment concerning the propriety or impropriety of a surgical operation, and yet be very deficient in regard to the easiest and most successful method of performing it.

To avoid such errors and mistakes as those, it is proper for every one to decide at first with steadiness concerning his profession, and then with

diligence and perseverance to direct his studies accordingly. By this method much valuable time will be saved, and the whole of his labors turned on his principal employment ; which will consequently be followed to the greatest advantage, and brought to the highest perfection.

III. Another point to be considered is the errors committed by youth from *too great Indulgence in Recreations*, such as *music, drawing, dancing, fencing, cards, dice, billiards, &c.* As the study of medicine requires such close application, there is of course but little opportunity for recreations, however pleasing or innocent, and especially for those which are of a sedentary nature. Whatever time a young man may have to spare from his studies, he ought to employ it in some active exercise, which may contribute both to the health of his body and the vigor of his mind.

Music in itself is an innocent and delightful entertainment ; but to pursue it to any great extent so as to become a proficient in it, is not a desirable employment for a medical student. The great Locke is of opinion, that a young man engaged in a liberal profession
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ought not to learn music, lest it should draw him too much into company, and by captivating the mind and disposing it to pleasure and dissipation, turn it from more important pursuits. If a young gentleman be able to sing a good song, it may prove a misfortune to him; for he will be continually invited to entertainments both public and private, in consequence of which he will not only neglect the study of medicine, but acquire habits of intemperance, than which nothing is more stupifying to the mind or prejudicial to health. Besides those general bad effects, he will be liable to be introduced into company, which will neither add to his character as a gentleman, nor forward his improvements in knowledge.

Drawing and painting are very sedentary employments, and therefore not proper to be much cultivated by a student of medicine. But a moderate knowledge of the principles and practice of drawing may be useful in the study of anatomy, chymistry, botany, &c. for the purpose of sketching out any particular subject; by which means a much clearer idea of it may be conveyed to the mind, than by a long and labored verbal description. Anatomical preparations, chymical apparatuses,
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or any new discoveries in the vegetable creation, may often be quickly and correctly illustrated by drawings.

Dancing and fencing, to a moderate degree, are active exercises, and may be looked upon as necessary to give a young man a firm, easy, and genteel carriage; but they must only be made use of as recreations.

Cards, dice, chess, billiards, &c. ought not in a medical student to engross any considerable portion of his time. A moderate knowledge of whist, quadrille, piquet, and back-gammon, acquired in good company, may, according to the present reigning fashion of the times, be thought to be in some measure necessary*. But a critical and exact knowledge of them is by
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* Whist and quadrille are the best and most useful games. Piquet and back-gammon are the next. Chess is too deep a study for a man of business. But no game whatever should on any account engross any part of the morning; which ought to be solely devoted to study. All mere games of chance, such as vingt-une, hazard, &c. ought not to be learned. Billiards are a pleasing game, and not a sedentary one; but an insuperable objection against it is, that it is played at in a morning as well as an evening, and is never an entertainment of mixed companies of ladies and gentlemen, except accidentally in great and opulent families.

no means desirable, as it would not repay the time and trouble required to attain it, and would certainly be attended with the loss of more important accomplishments.

Besides, an ambition to excel in those amusements might lead ultimately to the *practice* of *gaming*, which is one of the most dangerous, as well as most fashionable vices of the age. How many opulent and respectable families have of late years been either greatly injured or totally ruined by gaming. There is no one vice, which is more captivating to youth, or more difficult to be overcome. It corrupts the heart, and destroys all feeling and sensibility. To see an intimate friend and companion in distress from an unfortunate run at play, excites only a false and pretended compassion in the breast of that man, who has been the immediate cause of his misery. To take many unfair advantages of the young and unsuspecting, is the daily and hourly practice of gamblers.

A young man, who will venture deeply at a gaming-table, has little or no chance of success in the company of those, who have had long experience at the business, and served to it perhaps several apprenticeships. For this reason

son he should make it a fixed invariable rule never to risk at play any sum of money, the loss of which might give him a moment's uneasiness. Notwithstanding the flattery of his opponents, (with which they will not fail cheerfully and liberally to compliment him for the sake of his money,) he should be doubtful of his own abilities, and readily submit to all experienced and professed masters in the art;—otherwise he will certainly repent of his presumption, when it may be too late to remedy his misfortunes. Several notorious gamesters; who have accidentally gained admittance among gentlemen of character and reputation, have been found to practise arts and methods of deception, which are a disgrace to human nature, and against which it is impossible at play for an honest man to secure his property. To enter here into a particular detail of such base chicaneries, would be foreign to the subject. But if any young man, who has been previously warned by his friends and consequently is fully aware of the undue advantages taken by gamesters, will be so weak and foolish as to risk his fortune at play, he deserves to experience, as he most certainly will, the fatal effects of his folly. Gaming, like gluttony, is a scourge in the hands of providence, and the punishment

punishment inflicted by it is often grievous and dreadful indeed.

A young man of a liberal education should endeavor always to keep in mixed companies of ladies and gentlemen, and there amuse himself for a moderate stake only; and never be induced, out of bashfulness or false modesty, to risk with either sex more money than he at first intended. Great firmness and resolution of mind is required to put in practice this safe and admirable rule; but it is absolutely necessary to his success in life. All play too at late hours should be resolutely avoided; as it not only endangers a man's fortune, but injures his reputation, impairs his health, wastes his time, destroys his peace of mind, and disturbs his rest. For gaming beyond any thing agitates the whole frame, sours the temper, and without any apparent cause renders men sullen, passionate, and disagreeable in their own families.

IV. Another abuse of medical education is the attendance on *Public Lectures* which are *imperfect* and *incorrect*, and where the student of course can have no confidence in the doctrines delivered, or even in the facts adduced in sup-
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port of them. In this case there is either a total loss of time, where no attention is paid by the student; or else there is danger of his imbibing false and contradictory notions both in theory and in practice, than which nothing is more prejudicial to young minds.

To avoid this defect of education, the greatest care and circumspection in the directors of universities is necessary in the election of the professors of medicine. Neighbouring nations, and distant kingdoms are often interested in the choice. When the fountain-head is impure, the streams which flow from it cannot be expected to be clear.

The election of a professor should be conducted without partiality and without prejudice. Merit alone ought to determine the choice, which should be made by men of sense, probity, and judgment. A professor, thus elected to the chair, will stand the fairest chance to fill it with honor to himself and advantage to his fellow-creatures. He will, if an honest worthy man, feel himself above all the low quirks of deceit. He will never forget that he is an instructor of youth, but of youth to whom in a few years the care of the health of nations must be committed

committed. He will disdain the futile attempt of establishing his character by the solemnity of a look, the majesty of deportment, or the pathetic language of an artful insinuating tongue. He will disdain to raise his reputation as a teacher by erecting a system, invented through deceit and supported by falsehood; the fallacy and futility of which young minds are the least capable of detecting, till age, by unhappy experience, brings to their view unsuspected truths. He will know that, sooner or later, such vileness of character will be detected, and exposed to contempt with indignation. Anxious to improve his profession, he will industriously exert himself in the honorable discharge of his duty; and having dignity without pride, deliver the sound doctrines of medicine with spirit, veracity, and judgment. Such is the wisdom of a neighbouring nation in the choice of their professors; and long may that university (under whose auspices I had the happiness to be instructed) be the admiration of the world, and continue to do honor to the British realms.

V. An *irresistible attachment* to the *Works* of the *Antients*, has greatly retarded the progress of medical science. Hence the necessity of

cautioning youth against this error. As medicine is the art of preserving health and curing diseases, its origin, we must suppose, was nearly coeval with that of mankind. Pain and sickness would naturally excite a feeling rational creature to seek for relief, wherever there was barely a probability of obtaining it. Necessity would even compel men to the trial of remedies at random. In this rude and uncultivated state of our profession, errors, from the absolute nature of things, must have been numerous and unavoidable. Anatomy was scarcely begun to be studied. The laws of the animal economy were little understood. There were no accurate histories of diseases, and consequently could be no regular consistent practice of physic.

Hippocrates, the great father and founder of medicine, is the first upon record, who has given us any signs of a faint glimmering of light, which had with difficulty penetrated through the dark cloud that hung around the science of medicine. Galen was his noted admirer and learned commentator. These great men in all succeeding ages have been, and still ought to be held, in high esteem and veneration. They pursued the study of medicine

dicine on just principles, and prudently endeavored to extend their knowledge by facts, deduced from a careful observation of nature. They always proved themselves possessed of a free and liberal spirit of inquiry.

But waving all panegyric in favor of our ancestors, how lavish ought we to be in praise of their successors, who deserted that admirable method of cultivating medicine, by which they with so much success had made the first advances to improvement, and by which alone real improvement could ever be made? For many centuries after the time of Galen, during that dark period of general ignorance and superstition which overspread the world, we have no account of any considerable progress made in the science of medicine. The whole art seemed at a stand. The physicians of those days vainly thought their profession at a high pitch of perfection; that Hippocrates scarce could err, or Galen be mistaken. They wasted therefore their time in compiling voluminous commentaries upon their works—often enlarging on obvious truths—often explaining away their meaning,—and, where a passage was difficult, adding to its obscurity by the mist with which they ingeniously

geniously furrounded it. In short they so tortured every Hippocratic word, that future ages cannot read their works without dropping a tear.

Among many eminent physicians of modern times, this error has been very prevalent. Too much deference has been paid to antient medicine; and too much authority given to antient opinions. The learned Boerhaave seems not to have steered clear of this imputation. Baron Van Swieten frequently attempts to confirm his doctrines, by quotations from the writings of Hippocrates. I confess for my own part that I perfectly agree on this subject with the late Dr. Cullen, that those physicians, who freely quote Hippocrates and Galen to establish their opinions, give us often a better proof of their reading than of their judgment. I do not mean to depreciate, by what is here said, the value of antient writings, venerable indeed for their antiquity; but only to point out the weakness of that pedantic pride of some modern physicians, who cite them on many occasions with much more freedom than justness; and often strain their expressions to support opinions which they were never intended to do. We can however observe with
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secret pleasure, that in the present age men begin to see through the folly of such empty ostentation, and to treat it with that neglect which it so justly deserves.

VI. In the cure of diseases, *too much* or *too little* may be left to the *Powers* of *Nature*. Each extreme is faulty. Every experienced physician is well acquainted with what are commonly termed the *vires naturæ medicatrices*, so celebrated in the schools of medicine. He readily acknowledges, that the wise Creator has endowed animal bodies with an inherent power; by which, when they become diseased, an effort is made in the constitution to restore it to a state of health. Some animals may possess this power in greater perfection than man; but man enjoys it in a high degree. It is a low artifice in some physicians to be always attempting to invalidate the effects of this wise gift of Providence, so admirably adapted to the preservation of animal life. But it proves a real injury to a sick person, when the practitioner, ignorantly mistaking the salutary efforts of nature for unfavorable symptoms of the disease, interrupts or destroys them by an unseasonable use of remedies at a time, when in fact he ought only to have cautiously superintended them—to have left them

them undisturbed when proceeding prosperously—to have gently assisted them, when languid—or when violent, to have moderated them with judgment. Nor is this the worst effect of ignorance; for there are extant indeed too many unfortunate cases, where the *vires naturæ medicatrices* have been so grossly mistaken and unskilfully interrupted, as to be really converted into *vires nocentes*. I shall be obliged, in my *Observations on the Abuse of Medicine*, to adduce too many sad examples, which will be in confirmation of what is here asserted.—Hence the necessity of instructing young men in this important part of their profession, without which they will be in continual danger of increasing instead of curing diseases.

It is a strong convincing proof of genius and medical abilities in a physician, to be able acutely and accurately to draw the just line of distinction between the active auxiliary symptoms, and those which are merely morbid, indicative only of the violence of the disease and the weak efforts of sinking nature.

If a practitioner, not knowing as he ought the wonderful contrivance displayed in the structure
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of the human frame, could as vainly as falsely persuade himself to believe, that every happy change in a disease were justly to be attributed to the efficacy of his medicines, and every contrary turn to the violence or malignity of the complaint; such a one, from his boasted neglect of nature, would be very liable to counteract her wise operations and disturb her healing efforts, which, (it was his duty to have known) can never be equalled by an imitative art. Where ignorance in the profession is the cause of any errors of this kind, one cannot pretend to fix limits to the mischief which may ensue.

Nor is that practitioner wise who, faithless without reason of the powers of his art, ascribes every change in a disorder to the operations of nature, which he therefore dignifies with the title of a *Divinity*. 'The practice of such a person cannot but be weak and irresolute, and his remedies of course inert and useless; because his principles naturally incline him to reject the most powerful and efficacious means of cure, as being too great disturbers of his *divine Archeus*. A practitioner, embracing that opinion, is unable in a dangerous case to pursue with a steady manly boldness that method of

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treatment, on the effects of which his almost hopeless patient must solely depend for his last chance of recovery. Such a physician would do well to adopt a different opinion, which is much better established in fact*; and learn that the efforts of nature, which are for the most part salutary, may be and often are erroneous in many respects. Unhappy at least for his patients, if experience do not soon convince him of this important truth, and remove all ill-grounded prejudices, which he may have blindly entertained against it.

Let us suppose for a moment such an useless observer beside the bed of a plethoric man, laboring under an high inflammatory fever; and although the excess of stimulant power arise to such a height as to threaten an approaching phrensy, that he timidly waits in the vain expectation of a critical sweat or the discharge of a few drops of blood from the nose, till in a very short time the brain or its membranes are inflamed, and the complaint entirely beyond the reach of art. On the contrary two or three timely and effectual bleedings might in all human probability have warded off the

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* Vid. Gaubius's Pathological Institutions, § 104.

fatal blow, and (to use the language of an eminent physician) have re-established his patient's health, *tuto, cito, & jucunde**. Dr. Stahl has carried the doctrine of the *autocrateia*, or the *natura morborum medicatrix*, further than most other writers. He has pushed it indeed to such a length, as greatly to injure a system of medicine, which in many other respects is truly valuable. Hence his followers are remarkable for the feebleness of their practice, neglecting through needless apprehensions the use of opium, antimony, the peruvian bark, and many other of our most powerful remedies.—Several great men recorded in the annals of medicine, founders of particular sects, have like Dr. Stahl been thought justly chargeable with timidity; which indeed is a fault not unfrequent in the present age, sometimes an effect of constitution merely, but oftener of ignorance combined with humanity.

VII. It is a serious error in the education of a young practitioner, not to be properly informed concerning the *Nature* and *Advantages* of *Consultations* in all difficult and dangerous cases. From ignorance in this particular, many learned and worthy characters are at their first entrance on life injured and lost to the

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* Celsus.

world, in consequence of some sudden and unfavorable termination of a disease, the difficulty and danger of which they were not aware of. Here their reputation might have remained unfulfilled, if an able and experienced physician had been called in to their assistance; for timely advice and judicious practice might perhaps have preserved the life of the patient, or had the case proved incurable or even fatal, no blame had then fallen on the practitioner who was first consulted.

On the other hand the bad effects of one great and notorious error of practice, especially if in a patient of distinction, are often not to be obviated by ten years close application to business, and in some instances not by the hard labor of a whole life. Inexperienced practitioners must certainly be ignorant of a great number of cases, the nature and cure of which nothing but time and observation can elucidate. And yet how often do we find, in the most alarming cases, young men of moderate parts the most arrogant and self-sufficient; and at the same time daily committing the most egregious and often fatal blunders? Others of a contrary character, who are possessed of becoming modesty and know the great importance

portance of experience to the successful treatment of diseases, are cautious and consequently safe in their practice; and by pursuing a different line of conduct, shun the errors and mistakes of those, who are averse to consultations. But if the positive and self-conceited person think, that, by taking upon himself the whole management of a difficult and dangerous disease, he is doing his patient a kindness, the event may too often convince him that he is grossly mistaken.

It is unhappy for mankind to over-rate in idea either the skill of the physician, or the powers of his art. In both cases the disappointments, which must unavoidably follow, will often be accompanied with dissatisfaction. That physician ought to be esteemed among the first and best, not who vainly boasts of infallibility, but whose judgment is the most correct and extensive, and whose practice is the most judicious and successful. The propriety and even necessity of frequent consultations among physicians in obscure and dangerous complaints, is clear and self-evident. A practitioner of ordinary abilities may sometimes suggest a valuable hint to the most able head. This is asserted as matter of fact, although

although it is well known that the pride of pre-eminence will on such occasions dispose ambitious minds to prevaricate, to receive the hint with cold indifference, and suggest sophistical doubts, but seldom to acknowledge with candor the advantages which they may have received from the observations of another. If superiors even may profit from hints given by inferiors, what advantage, when the case is reversed, may not inferiors expect to reap from the judgment of superiors? How often may they be deterred from executing with rashness, what they had planned in ignorance.

But though the propriety of the measure be so obvious, how averse do we find many practitioners to adopt it, and declare their opinion openly in its favor by having frequent recourse to consultations? Gentlemen of the faculty of every rank should be desirous of conferring together in all critical and dangerous cases, and particularly whenever it may be deemed advisable to make immediate application of some powerful, but hazardous means of relief.

To what shall we attribute this seeming averseness of practitioners to consult with one another?

another? Are they suspicious without cause of not being treated with candor and honor? Do they think it will cast a reflection upon their judgment? Have they been guilty of some error in practice, which they are afraid to have canvassed and examined? Or are they so covetous of fame, as not to bear without uneasiness the thoughts of a rival to share their fancied success? If these or such like be their dissuasive motives, they are very weak and inconclusive indeed. This is an undoubted truth, that the ablest practitioners, those whose treatment of diseases will best bear to be examined, are generally the most desirous of holding consultations. Young practitioners in particular, who neglect to consult with others of greater experience and authority, if not of superior judgment, are very liable from a few unsuccessful cases to be materially injured in their reputation, although their treatment of them were not blameable in any respect.

Whenever a consultation may be thought necessary, it is a dangerous but frequent error to delay it too long, till there is no opportunity left of rendering any real service to the patient. Often too when a difficulty occurs, and a point of practice arises of great moment to be discussed,

cussed, an ignorant practitioner will first decide absolutely concerning it, and afterwards call a consultation, when the critical moment of success is past. In this melancholy situation of the patient, the consulting physician is in a disagreeable dilemma; for should he find on inquiry any gross neglect or rash conduct of the preceding practitioner, it is difficult for him to act properly in regard to both parties. If he expose the errors of the one, he may be thought to be uncandid and severe; and if he conceal them by asserting a falsehood, another person of the same family may afterwards suffer from the like practice. Candor, humanity, and good sense in these cases must determine according to circumstances the right line of conduct, which ought invariably to be pursued.

Frequent consultations on proper occasions, where practitioners may deliver their sentiments with freedom, and be heard with candid impartiality, will ever be found creditable to themselves by preventing all unjust aspersions on their characters, and beneficial to the public by providing most effectually for the health and safety of individuals. Much weak and rash practice would by this means be happily avoided,

avoided, and safe and efficacious treatment adopted in its stead. The customs of places must determine the decorum of consultations. One would fain hope too that honor and honesty would forbid that abuse of them, which indeed has too often manifested itself to such a degree, as greatly to defeat the principal end of the institution.

But notwithstanding the many obvious advantages of consultations among men of liberality and honor, yet where physicians are unprincipled, jealous of each other, and not on good terms, the beneficial effects of them are generally frustrated. In such cases, a consultation is often injurious to the patient, and proves a hinderance to his recovery. Each physician is then afraid of the other; and if one propose a probable but powerful means of relief, the other will sometimes oppose it immediately through envy, or if the case end unfavorably, he will be the first to ascribe the failure of success to the medicine recommended by his opponent. These considerations render physicians so suspicious of each other, that their practice is often weak and inefficacious; and consequently there is danger lest the patient should be lost for want of proper medical

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dical assistance. Besides, where physicians of this character are consulted together, if they do not feel themselves at liberty to act according to their judgment, and have no fear of any separate blame falling upon themselves, neither of them may be anxious to a proper degree after the success of the practice. In all such unpleasant situations, one able and experienced physician is undoubtedly better alone, than when joined in consultation, where there is no candor, no confidence, no honor—and where each suspecting the other, prevents any thing effectual from being done for the recovery of the patient's health. This is a statement of facts, which is a disgrace to the faculty, but unfortunately it is in too many instances confirmed in truth.

VIII. *Sects and Divisions* among physicians have ever proved of pernicious consequence to the cause of medicine. They have promoted a spirit of contradiction, and prevented a free communication of knowledge. They have disgraced truth itself, by victoriously adopting falsehood. The imagination, fired by opposition, has often invented facts which experience was unable to furnish. The mind, meanly struggling in dispute for conquest only, is in general too much prejudiced to submit to the

the plainest evidence of truth, where sophistry and falsehood are able to stagger its authority. But at no age are we more apt to be led into this error than in youth, when the passions and affections are warm and lively. Nothing can be a greater interruption to the progress of his medical studies, than for a young man to be actuated by the spirit of a party. He is then bound down by laws and rules prescribed by others, from which he is not at liberty to depart, without drawing upon himself their warmest resentment. In this situation he must abandon the use of his reason and understanding, unless when he is exerting himself in the support of the tenets of his party, whether those tenets be true or false.

Hence the leaders of sects, inflamed with the lawless spirit of opposition, have sometimes been hurried away by their ungovernable passions, beyond all bounds of common decency and discretion. Out of many notorious examples of this nature, we may mention the distinguished fury of Paracelsus. He was a man of sense, but possessed of an insupportable share of pride and ambition. He unhappily involved himself in all the difficulties and troubles of a faction. He formed a party of em-
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pirics in opposition to the regular faculty, and taught his followers that both the doctrines and practice of his opponents were absurd. He had a particular aversion to the study of Galen and Hippocrates, whose writings, as useless lumber, he ordered to be publicly burnt. Though it may be said in favor of this as well as other sects of empirics, that they earnestly sought after efficacious remedies, and employed them with steadiness and resolution, yet it may also be observed, not a little to the discredit of themselves and the abuse of their profession, that they neglected the study of anatomy and the histories of diseases.

From this cause too, different branches of the healing art, which ought undoubtedly to have been cultivated together, have been studied separately by different sects, to the great abuse of the free liberty of inquiry, and with signal hinderance to the progress of medicine. Hence the antient noted division of physicians into Galenists and Chymists, and the wild extravagant disputes which long subsisted between them. The Chymists were for the most part a bold illiterate set, eager in the pursuit of active remedies. The Galenists were in general more learned, their practice
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safer, but less efficacious. The very imperfect state of their theory evidently tended to induce timidity. But chymistry furnishes the physician with so many of his most valuable remedies, that it is indisputably necessary in his education. Hence a proof of the penetration and sagacity of the great Boerhaave, who happily put a period to this absurd division, and afterwards made rapid progress in the improvement of medicine, by uniting the labors of the two contending parties.

The free spirit of inquiry among the learned, bears some resemblance to the spirit of true liberty among a free people. If the spirit of liberty ever degenerate into the servile interested spirit of a faction, the public good must undoubtedly suffer. In like manner the cause of learning will ever be injured, when the free liberty of inquiry degenerates into the mean liberties of a sect.

IX. The *frequent Practice* among the faculty of vending *Nosstrums*, or *Quack-medicines* of no superior virtue to others of a like nature in common use, argues in general a narrow contracted mind, and is a discredit to the profession. On the contrary, if a *nosstrum* be
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really a new and important discovery, and its virtues fully established by experience, it ought to be made public for the general good of society. And if the practitioner who first discovered it be in that station of life, as to be unwilling to divulge his nostrum without a recompense, he should make his situation known, prove indisputably the real and superior efficacy of his medicine, and then he would certainly be intitled to a public reward, for the discovery of a remedy of public utility.

This is the line of conduct which ought to be pursued by men of liberal principles. In every other point of view, the conduct of practitioners respecting nostrums is for the most part reprehensible. For if the medicine possess little or no virtue, the boasted account of its efficacy in the removal of disorders is a falsehood. If it be a medicine in common use and of undoubted efficacy, but in a disguised adulterated state, such a practice is an imposition upon the public. Hence the necessity of guarding young people against all such low and illiberal conduct; and if once they imbibe just notions on the subject, there will be little or no danger afterwards of their falling into this error,

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With respect to the public it may be observed, that mankind are too much disposed to be severely harsh in their judgment of medical characters from single instances of unsuccessful practice. Mistaking their true interest, they are likewise too ready to load a practitioner with unmerited praise from a single case of unexpected success. By such procedure they often virtually inflict a heavy punishment upon themselves, by unjustly degrading the character of learned and wantonly extolling that of illiterate men. A practitioner, who pretends to be possessed of a nostrum for the cure of diseases, throws out an artificial bait, which men seize with eagerness, and by which they are often unfortunately ensnared.

Upon the bare mention of a nostrum, many, supposing themselves afflicted with one or other of those numerous complaints for which it is pretended to be an infallible cure, are willing, provided the vender be a man of sense and apparent veracity, to make trial of his medicine. In some, the disorder, specified to be cured, is at once obvious and incurable.—In some, nature of herself, either by sudden or by slow successful efforts, removes the complaint. The disease frequently is mistaken, not being
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what it is supposed; and in this case a common cold, from the apprehensions of the patient and the sophistry of the practitioner, has often been successfully treated under the exaggerated description of a deep pulmonary consumption.—The crafty empiric may sometimes administer his nostrum in conjunction with valid established means of cure. Here his remedy may acquire a reputation by report, which it never merited in fact.—Some patients, though they may have received no benefit from the boasted nostrum of the empiric, may yet obtain relief afterwards from regular practice. These, from different motives, may be sometimes prevented from exposing publicly either the insignificance of his boasts, or the fallibility of his nostrum.—Others, if the secret be a mere placebo, (as secrets often are) will remain as they were, neither better nor worse for the trial. Kind treatment and civility may even here incline in his favor*, and dispose to silence
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* I have known patients in low circumstances, who had received presents from quack-doctors or their attendants, ready to assert the grossest falsehoods. One poor woman, in the last stage of a deep pulmonary consumption, assured her friends of her recovery; her case was frequently advertised in the public papers as cured; but unfortunately her itinerant benefactor had not left the town a week before her dissolution.

the active tongue of reproach, which had otherwise been exasperated in consequence of disappointed hope.—Some, although materially injured by a nostrum, may be so much ashamed of their conduct, as not to mention the injury which they have received.

Thus various causes unite to prevent censure on failure of success, and to afford in some cases of favorable termination that degree of fame, which, though moderate in itself, may, by being spread with industry and set off with ostentation, prove uncommon and extravagant in its influence, not only upon vulgar minds, but upon others both of sound sense and liberal education. Hence we may conclude, that if mankind will be so lavish of their praise from single instances of uncertain success, they must constantly be in danger of becoming dupes to their own blind credulity. A practitioner of ordinary abilities and imperfect education, may sometimes be able to adduce a few accidental cases of apparent extraordinary cures. But it is not meant by these remarks to insinuate, that every vender of a nostrum is an empiric, because we know on the contrary that there are men of character and experience, who, (from some motive or other which no doubt is

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satisfactory to themselves,) may think it proper for a while to withhold their secret from public scrutiny. It is however to be wished, for the general benefit of society, that the fame of medical characters might not be determined by chance or caprice; but that the good sense, industry, opportunities of improvement, medical erudition, and general success of a practitioner might fix a lasting stamp upon his character, and be the true standard by which men are to judge of his medical abilities.

F I N I S.